BAB V

HASIL PENELITIAN

5.1 Kadar Lengas Kayu

Dari kayu yang digunakan untuk pembuatan sampel penelitian, diambil beberapa potong kayu, yang selanjutnya digunakan untuk mengetahui kadar lengas kayu tersebut. Tabel 5.1 merupakan tabel hasil yang diperoleh dari menimbang potongan kayu yang akan dicari kadar lengasnya. Kadar lengas kayu ditentukan dengan menggunakan persamaan 3.1 dan kadar lengas kayu ditunjukkan dalam Tabel 5.2.

Tabel 5.1 Berat Sampel untuk uji kadar lengas kayu

Sampel	Dimensi (pxlxt) (cm)	Berat Banda Uji pada hari ke (gr)				
		I	II	III	IV	V
1	5.24 x 5.86 x 3.8	92.2	91.7	91.58	91.5	91.5
2	5.28 x 5.94 x 3.86	89.3	88.9	88.8	88.6	88.6
3	5.12 x 5.9 x 3.87	92.6	91.8	91.6	91.4	91.4
4	5.37 x 5.62 x 3.915	77.7	77.5	77.5	77.5	77.5
5	5.08 x 5.88 x 4.19	81.9	81.7	81.6	81.5	81.5

Perhitungan Kadar Lengas : $MC = \frac{Wo - W1}{W1} \times 100\ \%$

Tabel 5.2 Kadar Lengas Kayu

Sampel	Berat Kering Udara (W_o) (gr)	Berat Kering Tungku (W_1) (gr)	Kadar Lengas (MC) (%)
1	92,2	91,5	0,765
2	89,3	88,6	0,79
3	92,6	91,4	1,3129
4	77,7	77,5	0,258
5	81,9	81,5	0,491
Kadar lengas kayu rata-rata			0,72338

5.2 Berat Volume Kayu

Dari pengukuran potongan kecil kayu didapat berat volume kayu, seperti pada Tabel 5.3. Pengukuran berat volume kayu dilakukan pada kondisi kayu kering udara dan ditentukan dengan menggunakan persamaan 3.3.

Tabel 5.3 Berat Volume Kayu

Sampel	Dimensi (pxlxt) (cm)	Volume (V) (cm^3)	Berat (W) (gr)	Berat Volume (γ) (gr/cm^3)
1	5,24 x 5,86 x 3,8	116,68432	92,2	0,790166
2	5,28 x 5,94 x 3,86	121,06195	89,3	0,737639
3	5,12 x 5,9 x 3,87	116,90496	92,6	0,792096
4	5,37 x 5,62 x 3,915	118,15235	77,7	0,657626
5	5,08 x 5,88 x 4,19	125,15698	81,9	0,654378

5.3 Mutu Kayu

Dilihat dari hasil pengujian karakteristik kayu diperoleh data sebagai berikut:

1. kadar lengas kayu rata - rata : 0,72338 %
2. besar mata kayu : $d_1 = 0$; $d_2 = 0$
3. wanvlak : e = 0
4. miring arah serat : 1/20
5. retak – retak dalam arah radial : $h_r = 0$; $h_t = 0$

Dari data di atas, berdasarkan PKKI 1961 tentang mutu kayu, maka kayu tersebut termasuk dalam kayu mutu A.

5.4 Modulus Elastisitas Kayu

Modulus Elastisitas kayu dapat dihitung dengan menggunakan persamaan 3.3. Hitungan Modulus Elastisitas kayu tersebut sebagai berikut.

1. Sampel 1

   Hasil pengujian kuat desak kayu sampel 1 dapat dilihat pada Tabel 5.4 dan Gambar 5.1.

   Panjang mula – mula (Lo) = 20,1 cm

   Luas : lebar x tebal

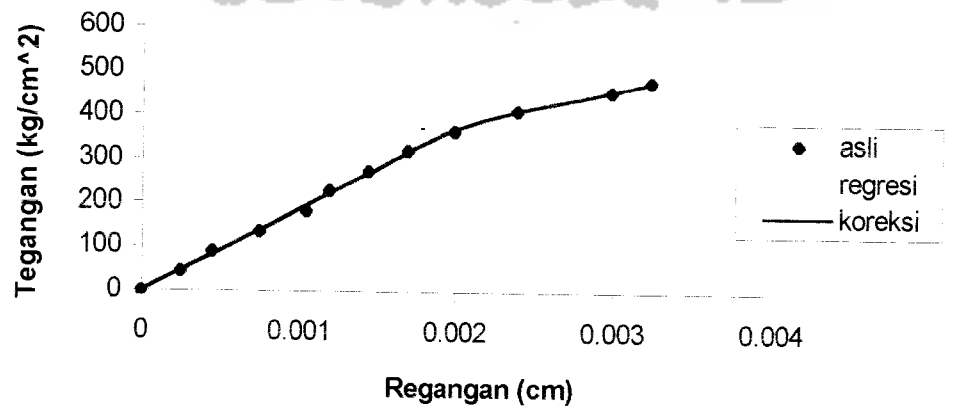
   = 5,86 x 3,80

   = 22,268 cm^2

Tabel 5.4 Kuat Desak Kayu Sampel 1

BEBAN		Ekstensometer	Tegangan	Regangan	Regangan	Regangan
KN	Kg	Mm	(kg/cm^2)	Asli	Regresi	Koreksi
0	0	0	0	0	0	0
10	1019,368	0,05	45,77726	0,000249	0,00024	0,00024
20	2038,376	0,09	91,53835	0,000448	0,00049	0,00049
30	3058,104	0,15	137,3318	0,000746	0,00073	0,00073
40	4077,472	0,21	183,109	0,001045	0,00098	0,00098
50	5096,84	0,24	228,8863	0,001194	0,00122	0,00122
60	6116,208	0,29	274,6636	0,001443	0,00147	0,00147
70	7135,576	0,34	320,4408	0,001692	0,001710	0,00171
80	8154,944	0,4	366,2181	0,00199	0,001960	0,00196
90	9174,312	0,48	411,9953	0,002388	0,002388	0,002388
100	10193,68	0,6	457,7726	0,002985	0,002985	0,002985
105	10703,36	0,65	480,6612	0,003234	0,003234	0,003234

Gambar 5.1 Diagram Tegangan-Regangan Kayu Sampel 1



Batas sebanding : $\sigma_p = 366{,}21807\ kg/cm^2$

$\varepsilon_p = 0{,}00196$

Modulus Elastisitas Kayu :

$$E = \frac{366{,}21807}{0{,}00196}$$

$$= 186845{,}954082\ kg/cm^2$$

2. Sampel 2

Hasil pengujian kuat desak kayu sampel 2 dapat dilihat pada Tabel 5.5 dan Gambar 5.2.

Panjang mula – mula (Lo) = 20,25 cm

Luas : lebar x tebal

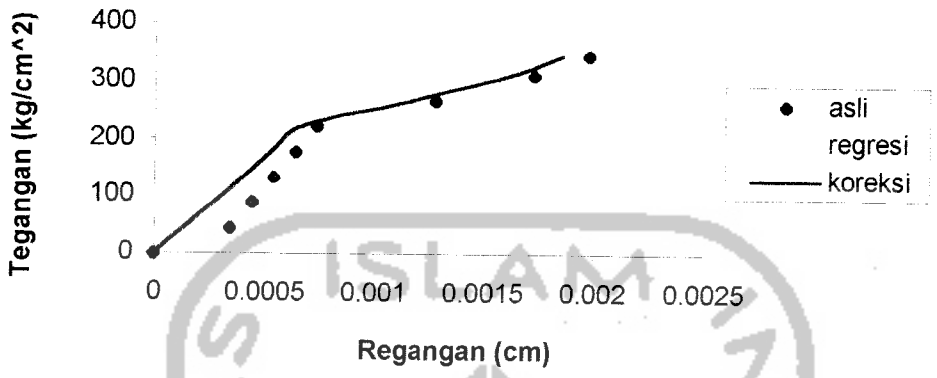
= 5,94 x 3,86

= 22,9284 cm^2

Tabel 5.5 Kuat Desak Kayu Sampel 2

BEBAN		Ekstensometer	Tegangan	Regangan	Regangan	Regangan
KN	Kg	Mm	(kg/cm^2)	Asli	Regresi	Koreksi
0	0	0	0	0	0,00012	0
10	1019,368	0,07	44,45875	0,000346	0,00025	0,00013
20	2038,376	0,09	88,9018	0,000444	0,00039	0,00027
30	3058,104	0,11	133,3762	0,000543	0,00052	0,0004
40	4077,472	0,13	177,835	0,000642	0,00065	0,00053
50	5096,84	0,15	222,2937	0,000741	0,00079	0,00067
60	6116,208	0,26	266,7525	0,001284	0,001284	0,001164
70	7135,576	0,35	311,2112	0,001728	0,001728	0,001608
78	7951,07	0,4	346,7782	0,001975	0,001975	0,001855

Gambar 5.2 Diagram Tegangan-Regangan Kayu Sampel 2



Batas sebanding : σ_p = 222,293747 kg/cm^2

ε_p = 0,00074074

Modulus Elastisitas Kayu :

$$E = \frac{222,293747}{0,00074074}$$

= 300096,8585 kg/cm^2

3. Sampel 3

Hasil pengujian kuat desak kayu sampel 3 dapat dilihat pada Tabel 5.6 dan Gambar 5.3.

Panjang mula – mula (Lo) = 20,1 cm

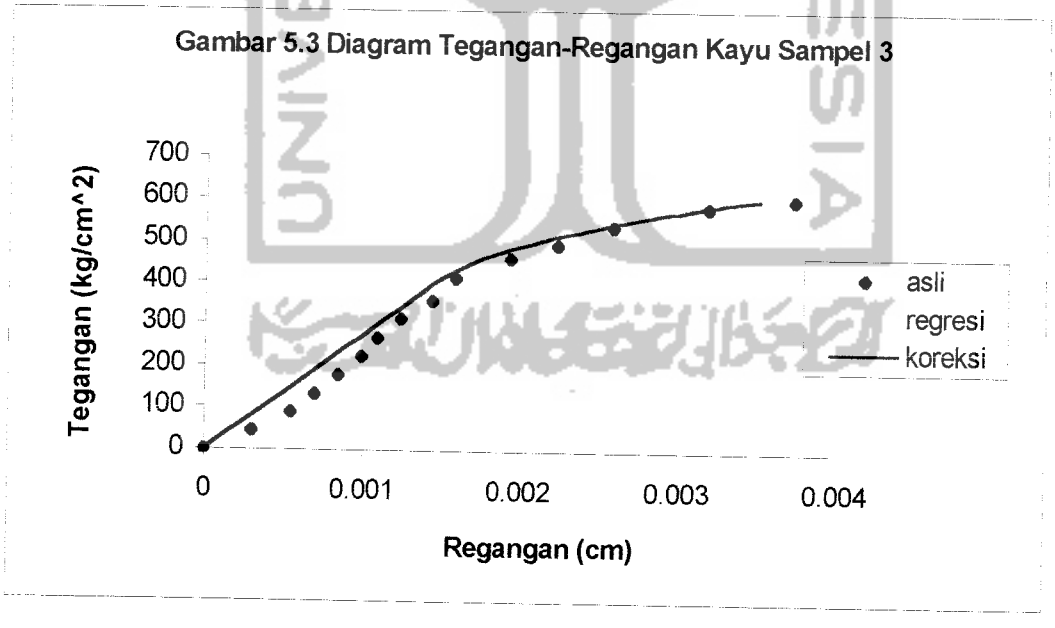
Luas : lebar x tebal

= 5,9 x 3,87

= 22,833 cm^2

Tabel 5.6 Kuat Desak Kayu Sampel 3

BEBAN		Ekstensometer	Tegangan	Regangan	Regangan	Regangan
KN	Kg	Mm	(kg/cm^2)	Asli	Regresi	Koreksi
0	0	0	0	0	0,00014	0
10	1019,368	0,06	44,64451	0,000299	0,0003	0,00016
20	2038,376	0,11	89,27324	0,000547	0,00047	0,00033
30	3058,104	0,14	133,9335	0,000697	0,00063	0,00049
40	4077,472	0,17	178,578	0,000846	0,00079	0,00065
50	5096,84	0,2	223,2225	0,000995	0,00095	0,00081
60	6116,208	0,22	267,867	0,001095	0,00112	0,00098
70	7135,576	0,25	312,5115	0,001244	0,00128	0,00114
80	8154,944	0,29	357,156	0,001443	0,00144	0,0013
90	9174,312	0,32	411,9953	0,001592	0,00164	0,0015
100	10193,68	0,39	457,7726	0,00194	0,0019	0,00176
110	11213,05	0,45	491,0896	0,002239	0,00217	0,00203
120	12232,42	0,52	535,7341	0,002587	0,00265	0,00251
130	13251,78	0,64	580,3786	0,003184	0,00328	0,00314
135	13761,47	0,75	602,7008	0,003731	0,00365	0,00351



Batas sebanding : $\sigma_p = 411{,}99533\ kg/cm^2$

$\varepsilon_p = 0{,}00164$

Modulus Elastisitas Kayu :

$$E = \frac{411{,}99533}{0{,}00164}$$

$$= 251216{,}664634\ kg/cm^2$$

4. Sampel 4

Hasil pengujian kuat desak kayu sampel 4 dapat dilihat pada Tabel 5.7 dan Gambar 5.4.

Panjang mula – mula (Lo) = 19,75 cm

Luas : lebar x tebal

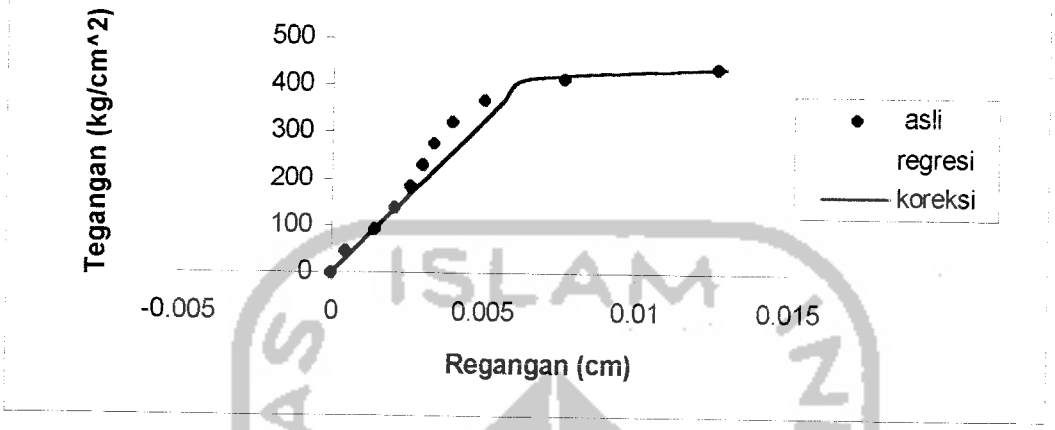
= 5,62 x 3,915

= 22,0023 cm^2

Tabel 5.7 Kuat Desak Kayu Sampel 4

BEBAN		Ekstensometer	Tegangan	Regangan	Regangan	Regangan
KN	Kg	mm	(kg/cm^2)	Asli	Regresi	Koreksi
0	0	0	0	0	-0,00026	0
10	1019,368	0,09	46,33007	0,000456	0,00045	0,00071
20	2038,376	0,28	92,64377	0,001418	0,00117	0,00143
30	3058,104	0,41	138,9902	0,002076	0,00188	0,00214
40	4077,472	0,51	185,3203	0,002582	0,00259	0,00285
50	5096,84	0,59	231,6503	0,002987	0,0033	0,00356
60	6116,208	0,66	277,9804	0,003342	0,00402	0,00428
70	7135,576	0,78	324,3105	0,003949	0,00473	0,00499
80	8154,944	0,99	370,6405	0,005013	0,00544	0,0057
90	9174,312	1,51	416,9706	0,007646	0,00615	0,00641
95	9683,996	2,5	440,1356	0,012658	0,012658	0,012918

Gambar 5.4 Diagram Tegangan-Regangan Kayu Sampel 4



Batas sebanding : $\sigma_p = 370{,}64052 \text{ kg/cm}^2$

$\varepsilon_p = 0{,}00501266$

Modulus Elastisitas Kayu :

$$E = \frac{370{,}64052}{0{,}00501266}$$

$$= 73940{,}885877 \text{ kg/cm}^2$$

5. Sampel 5

Hasil pengujian kuat desak kayu sampel 5 dapat dilihat pada Tabel 5.8 dan Gambar 5.5.

Panjang mula – mula (Lo) = 19,85 cm

Luas : lebar x tebal

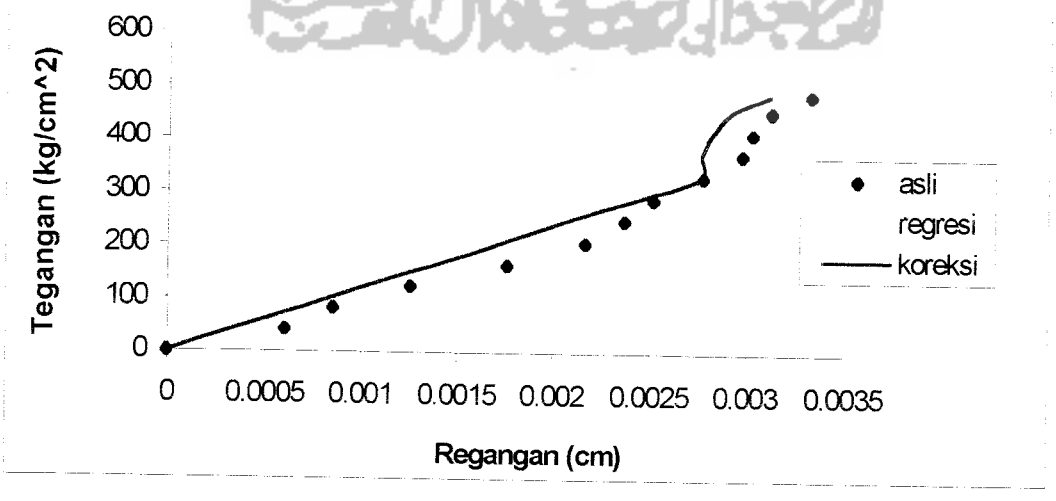
= 5,88 x 4,19

= 24,6372 cm^2

Tabel 5.8 Kuat Desak Kayu Sampel 5

BEBAN		Ekstensometer	Tegangan	Regangan	Regangan	Regangan
KN	Kg	Mm	(kg/cm^2)	Asli	Regresi	Koreksi
0	0	0	0	0	0,00021	0
10	1019,368	0,12	41,37516	0,000605	0,00055	0,00034
20	2038,376	0,17	82,7357	0,000856	0,0009	0,00069
30	3058,104	0,25	124,1255	0,001259	0,00124	0,00103
40	4077,472	0,35	165,5006	0,001763	0,00159	0,00138
50	5096,84	0,43	206,8758	0,002166	0,00194	0,00173
60	6116,208	0,47	248,2509	0,002368	0,00228	0,00207
70	7135,576	0,5	289,6261	0,002519	0,00263	0,00242
80	8154,944	0,55	331,0012	0,002771	0,00297	0,00276
90	9174,312	0,59	372,3764	0,002972	0,002972	0,002762
100	10193,68	0,6	413,7516	0,003023	0,003023	0,002813
110	11213,05	0,62	455,1267	0,003123	0,003123	0,002913
118	12028,54	0,66	488,2268	0,003325	0,003325	0,003115

Gambar 5.5 Diagram Tegangan-Regangan Kayu Sampel 5



Batas sebanding : $\sigma_p = 331{,}001247 \text{ kg/cm}^2$

$\varepsilon_p = 0{,}00276$

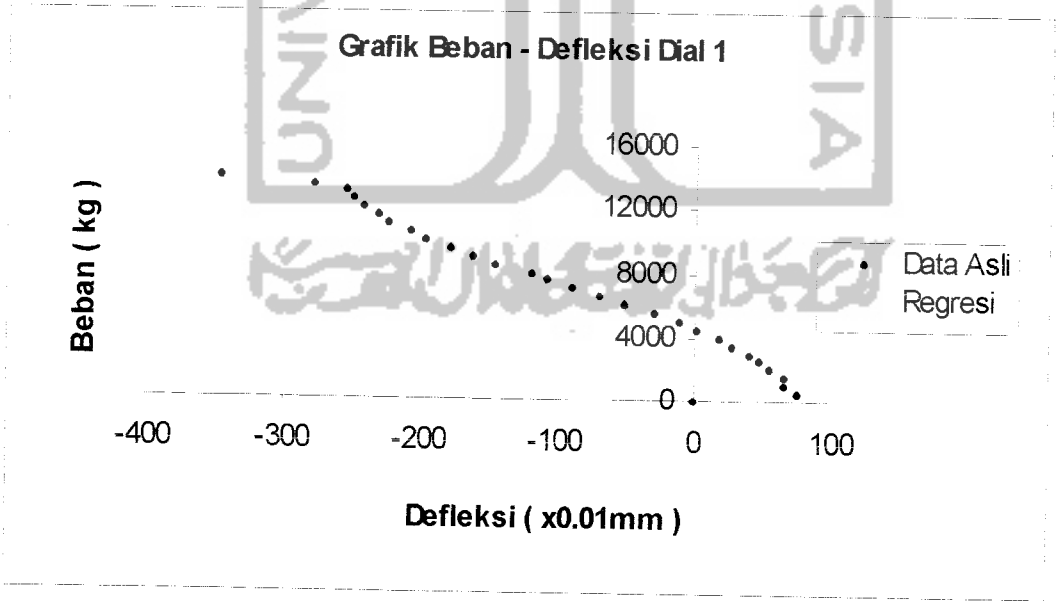
Modulus Elastisitas Kayu :

$$E = \frac{331{,}001247}{0{,}00276}$$

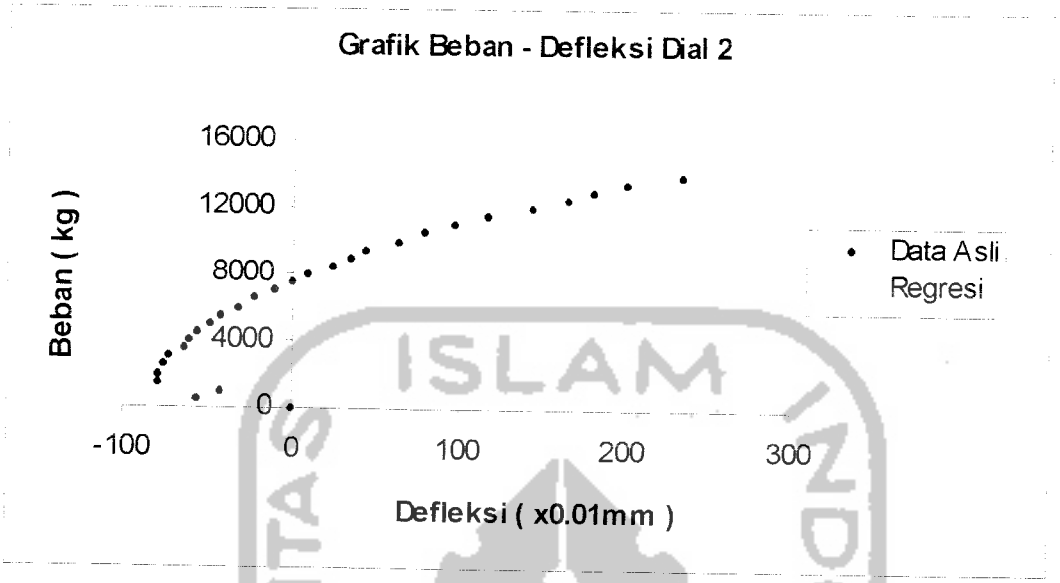
$$= 119927{,}988043 \text{ kg/cm}^2$$

5.5 Kuat Desak Benda Uji

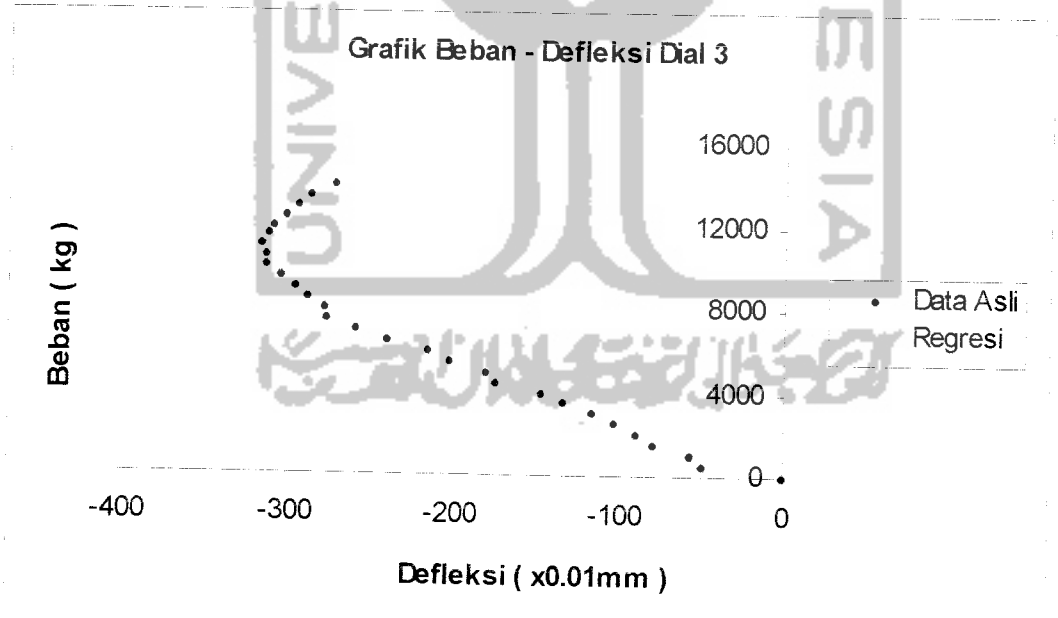
Dari setiap pengujian desak terhadap benda uji, diperoleh diagram hubungan antara besar beban dengan defleksinya (δ), untuk lebih jelasnya dapat dilihat pada gambar-gambar berikut.



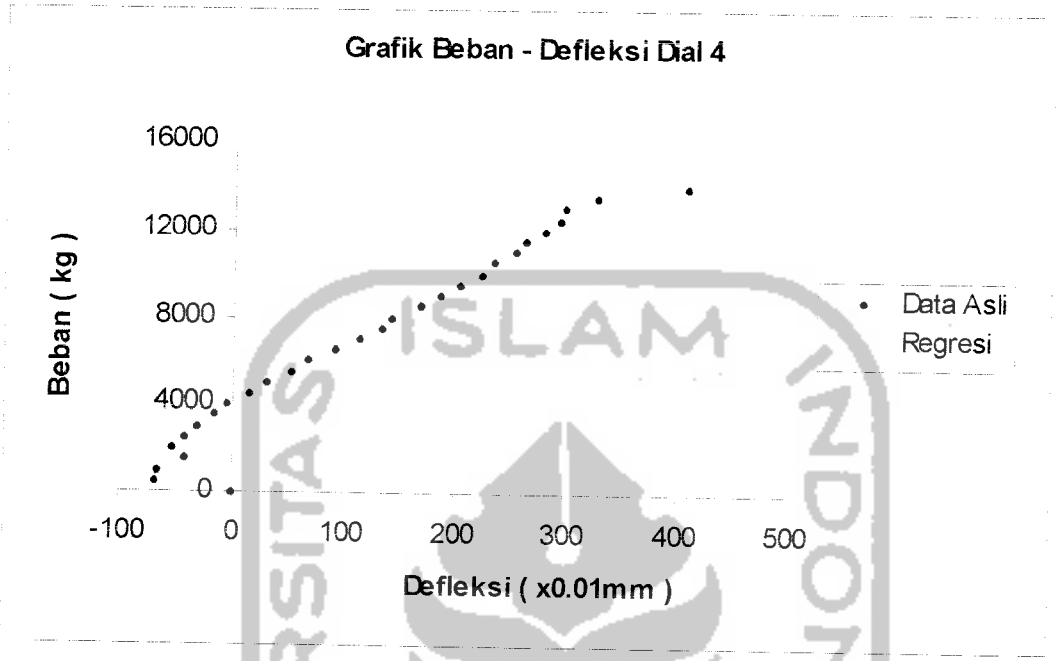
Gambar 5.6 Grafik Beban – Defleksi Dial 1 Benda Uji 1,0m / A / 1



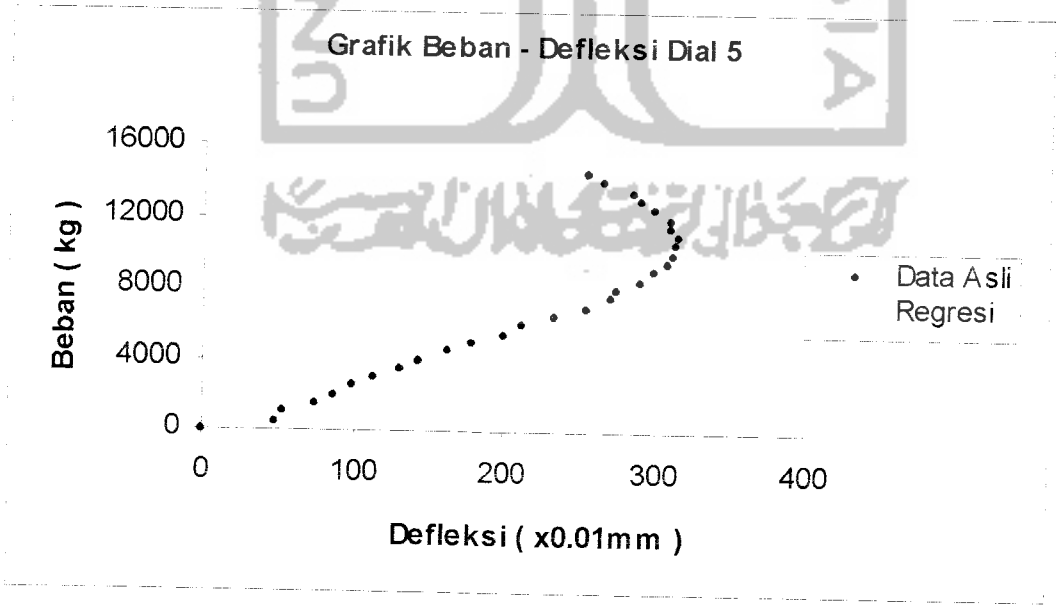
Gambar 5.7 Grafik Beban – Defleksi Dial 2 Benda Uji 1,0m / A / 1



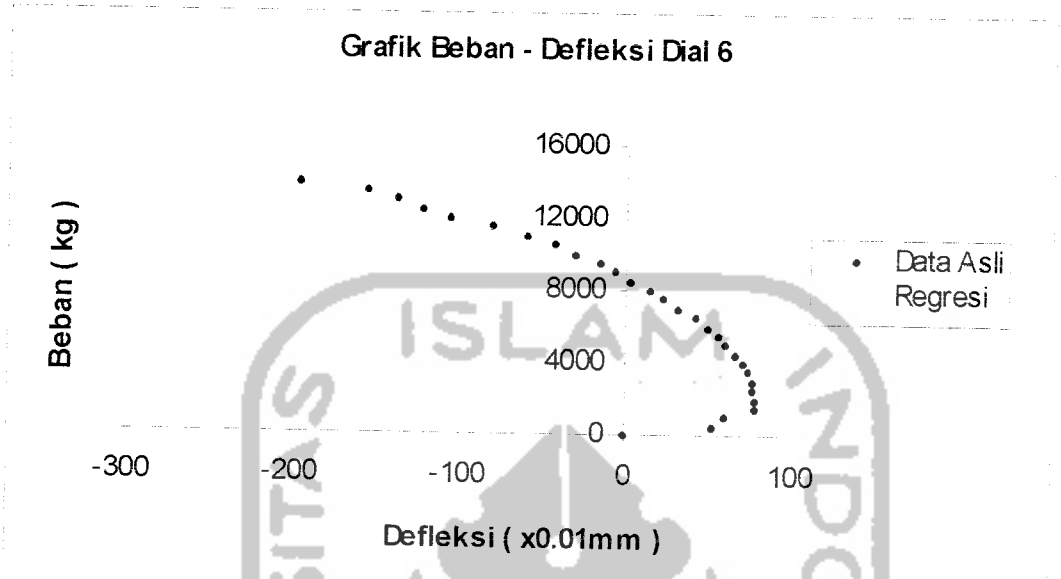
Gambar 5.8 Grafik Beban – Defleksi Dial 3 Benda Uji 1,0m / A / 1



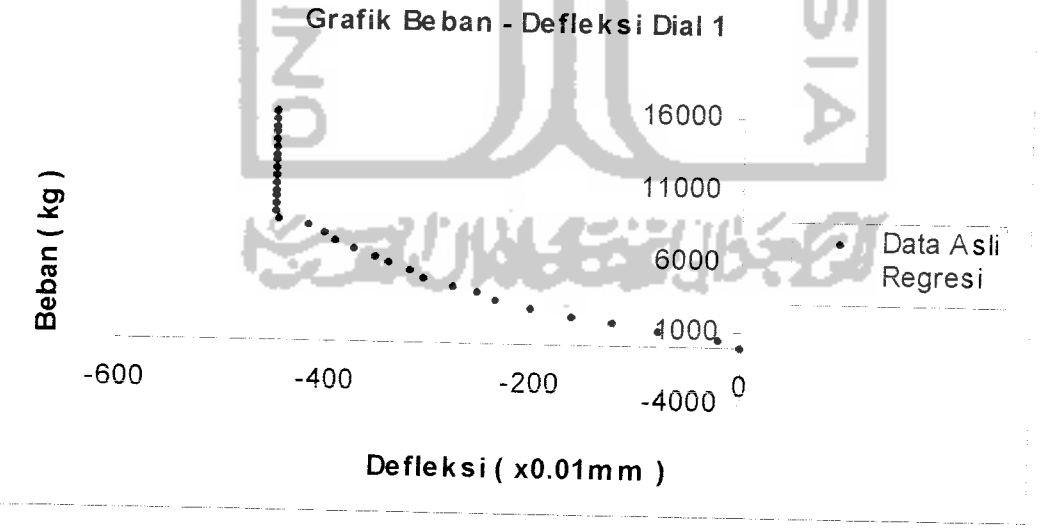
Gambar 5.9 Grafik Beban – Defleksi Dial 4 Benda Uji 1,0m / A / 1



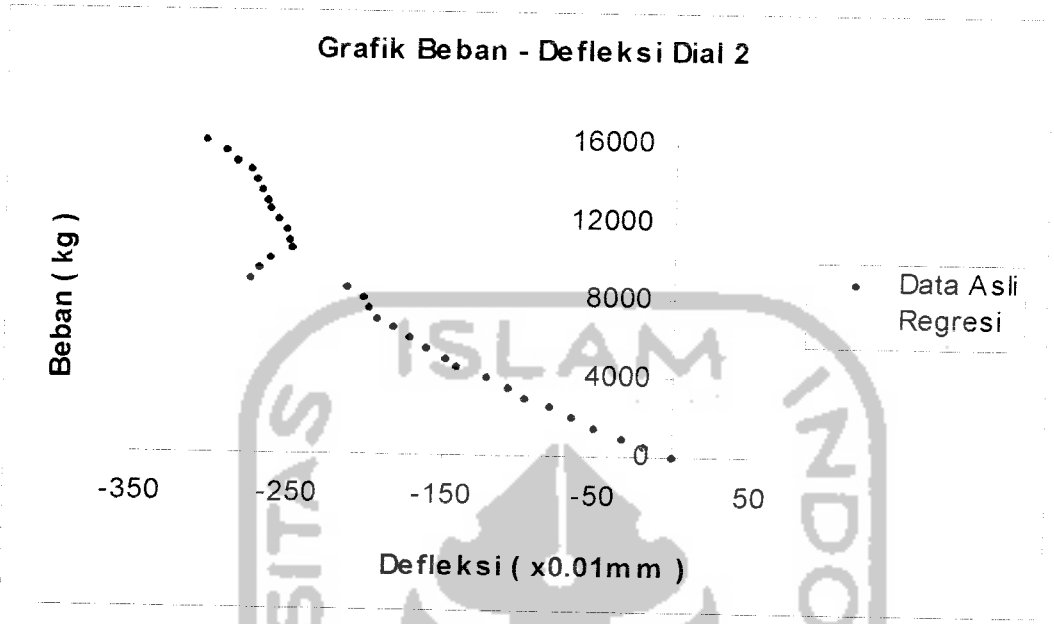
Gambar 5.10 Grafik Beban – Defleksi Dial 5 Benda Uji 1,0m / A / 1



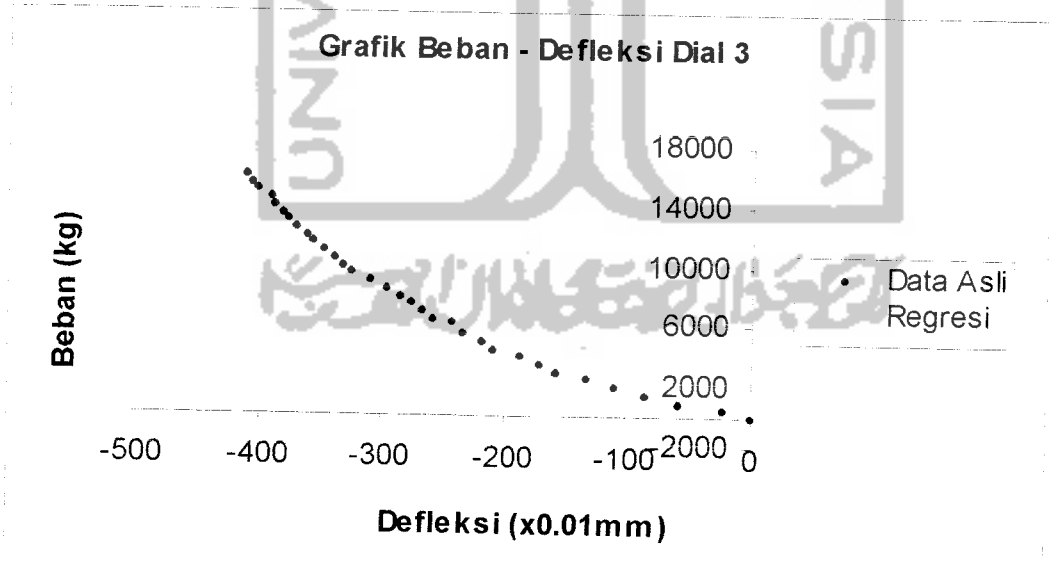
Gambar 5.11 Grafik Beban – Defleksi Dial 6 Benda Uji 1,0m / A / 1



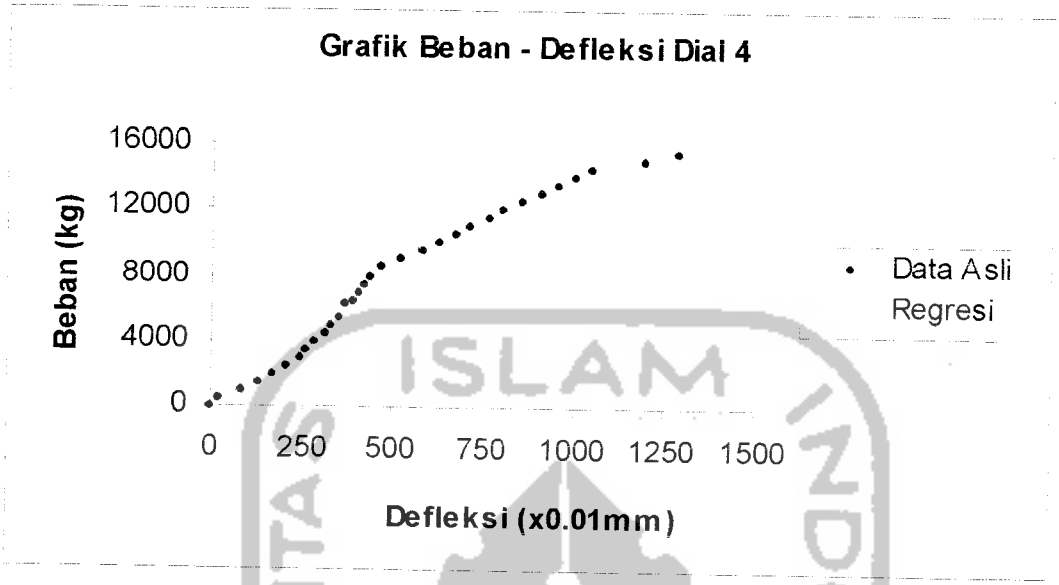
Gambar 5.12 Grafik Beban – Defleksi Dial 1 Benda Uji 1,0m / B / 1



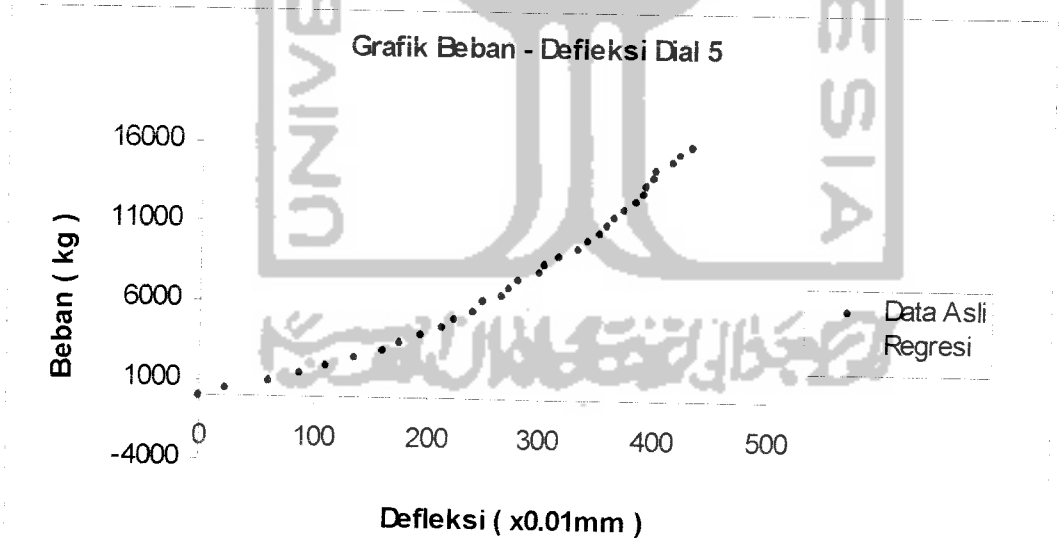
Gambar 5.13 Grafik Beban – Defleksi Dial 2 Benda Uji 1,0m / B / 1



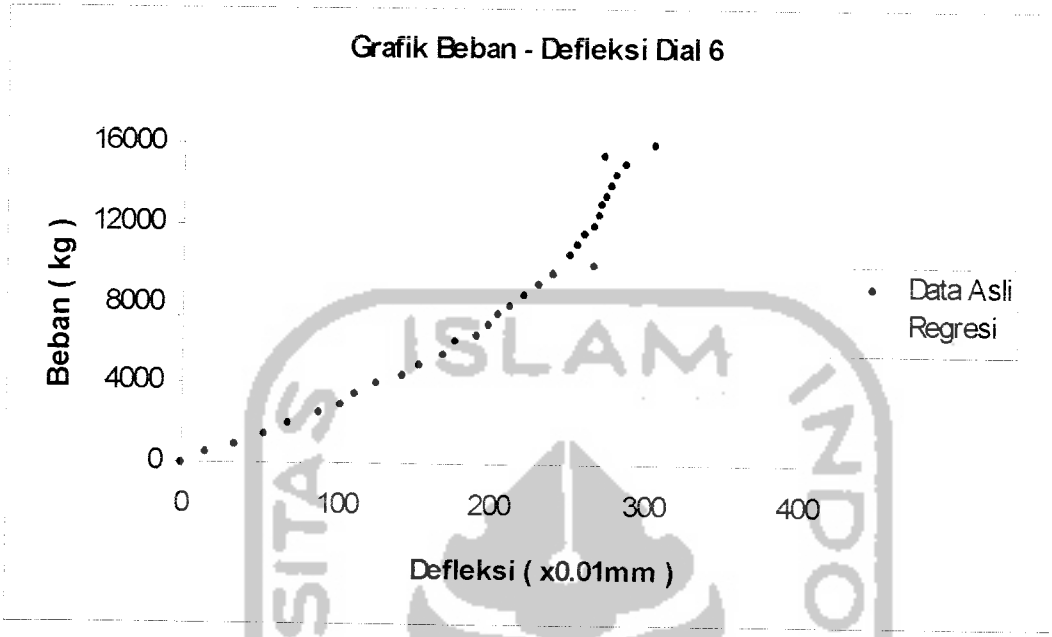
Gambar 5.14 Grafik Beban – Defleksi Dial 3 Benda Uji 1,0m / B / 1



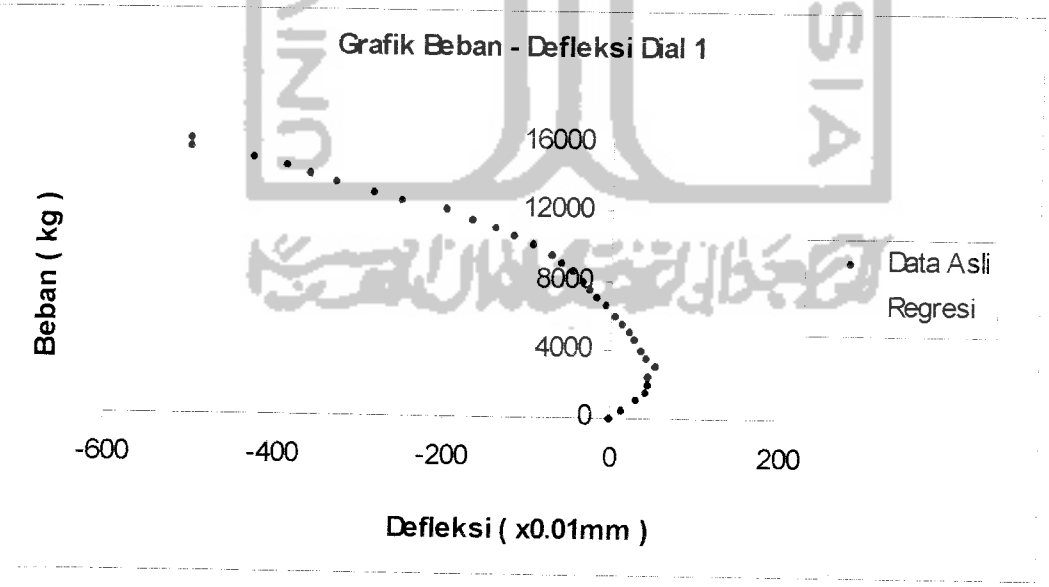
Gambar 5.15 Grafik Beban – Defleksi Dial 4 Benda Uji 1,0m / B / 1



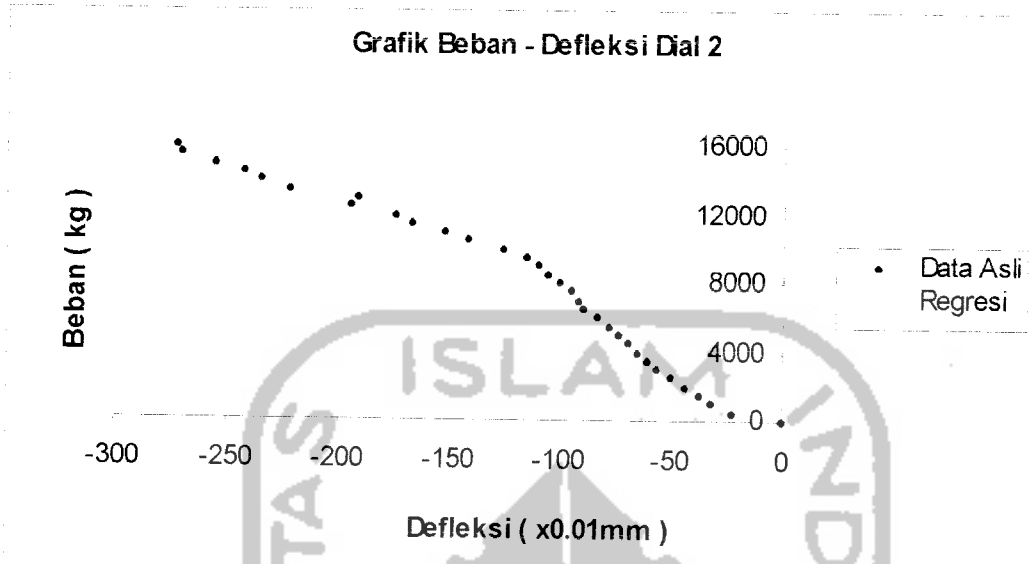
Gambar 5.16 Grafik Beban – Defleksi Dial 5 Benda Uji 1,0m / B / 1



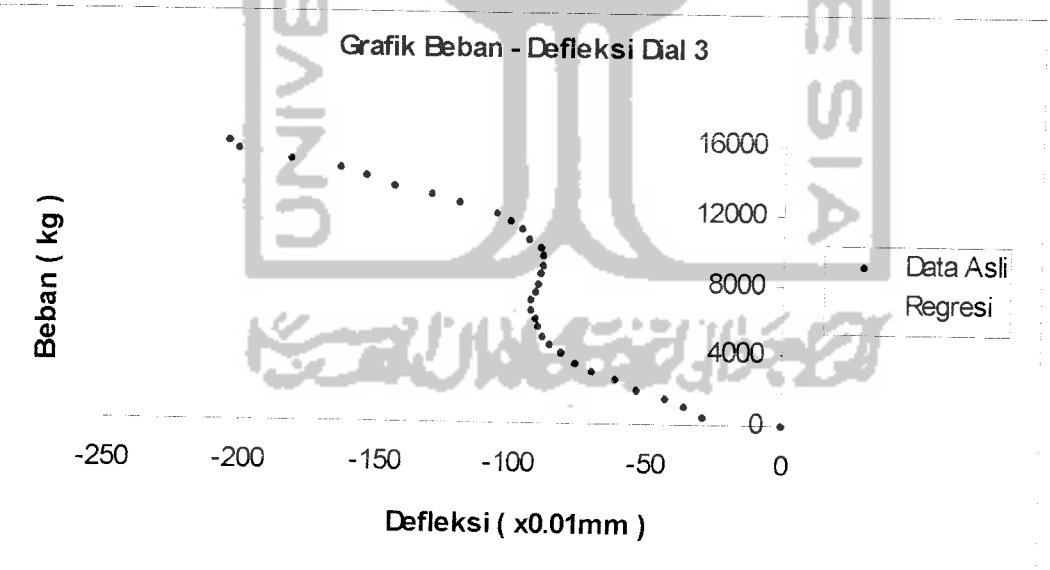
Gambar 5.17 Grafik Beban – Defleksi Dial 6 Benda Uji 1,0m / B / 1



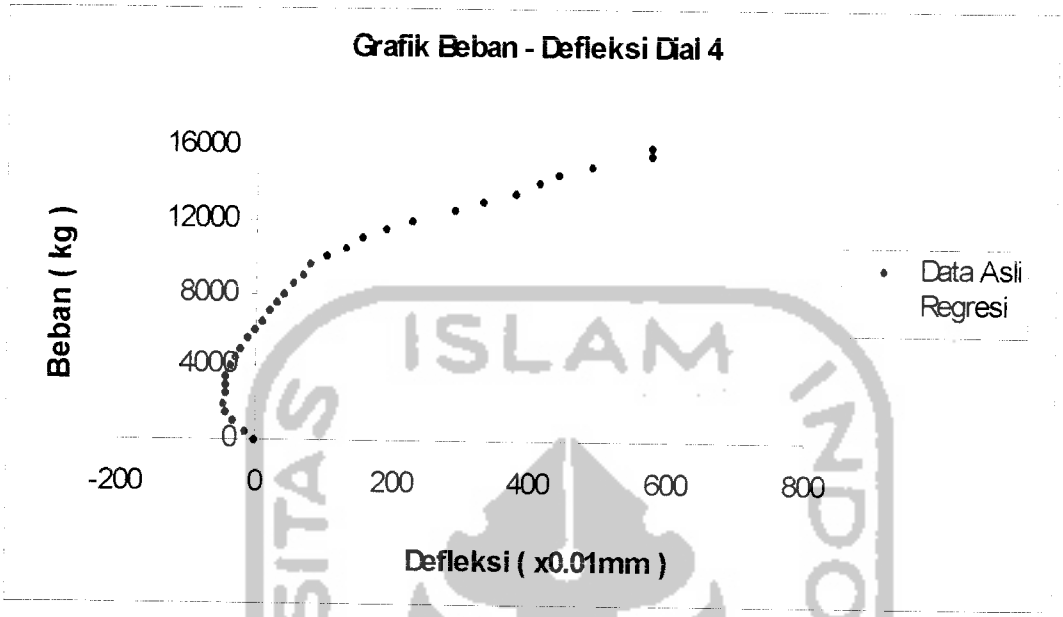
Gambar 5.18 Grafik Beban – Defleksi Dial 1 Benda Uji 1,0m / C / 1



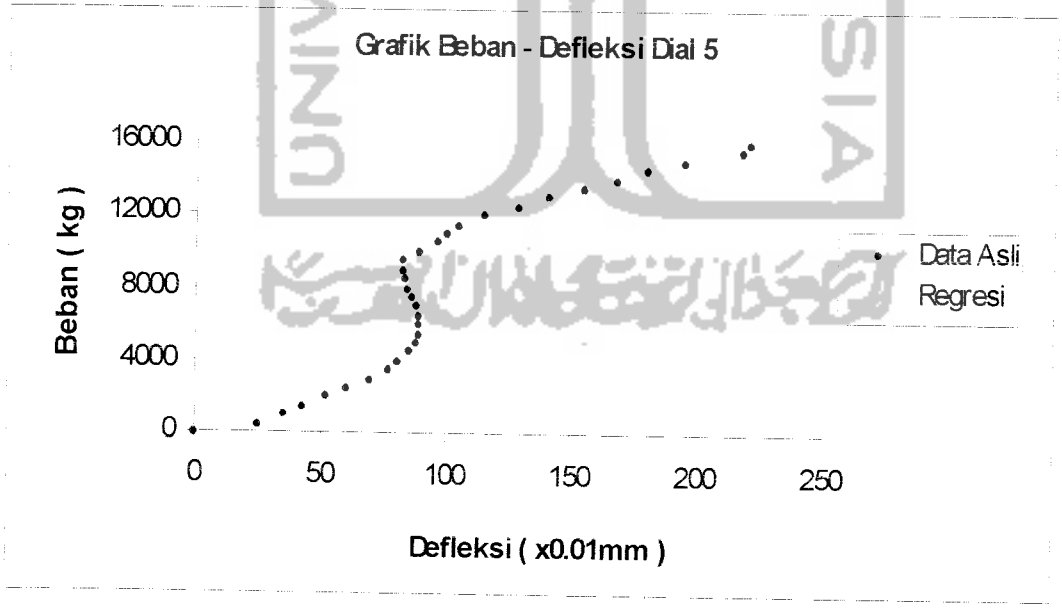
Gambar 5.19 Grafik Beban – Defleksi Dial 2 Benda Uji 1,0m / C / 1



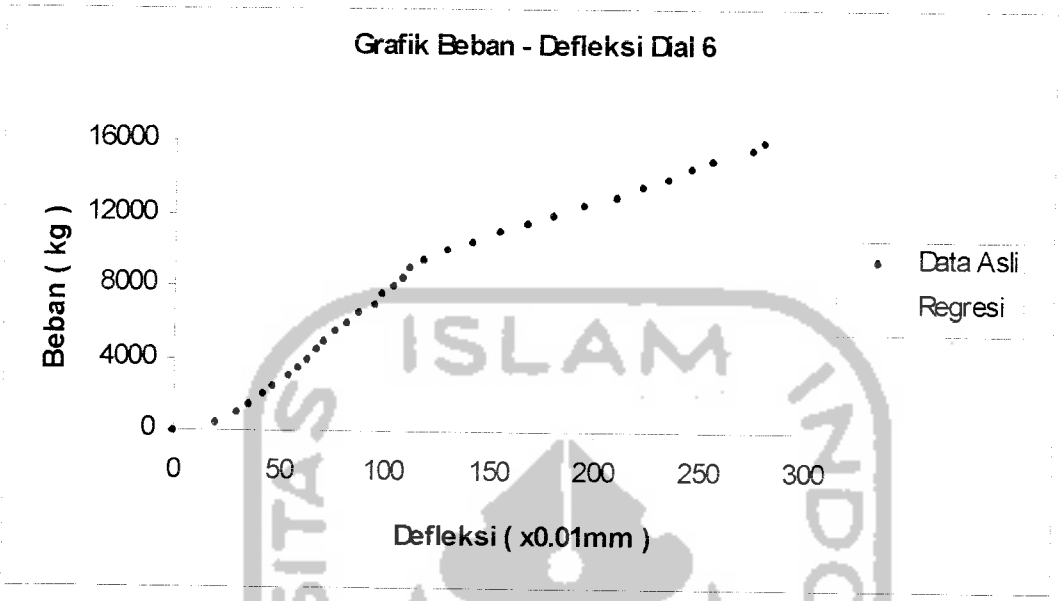
Gambar 5.20 Grafik Beban – Defleksi Dial 3 Benda Uji 1,0m / C / 1



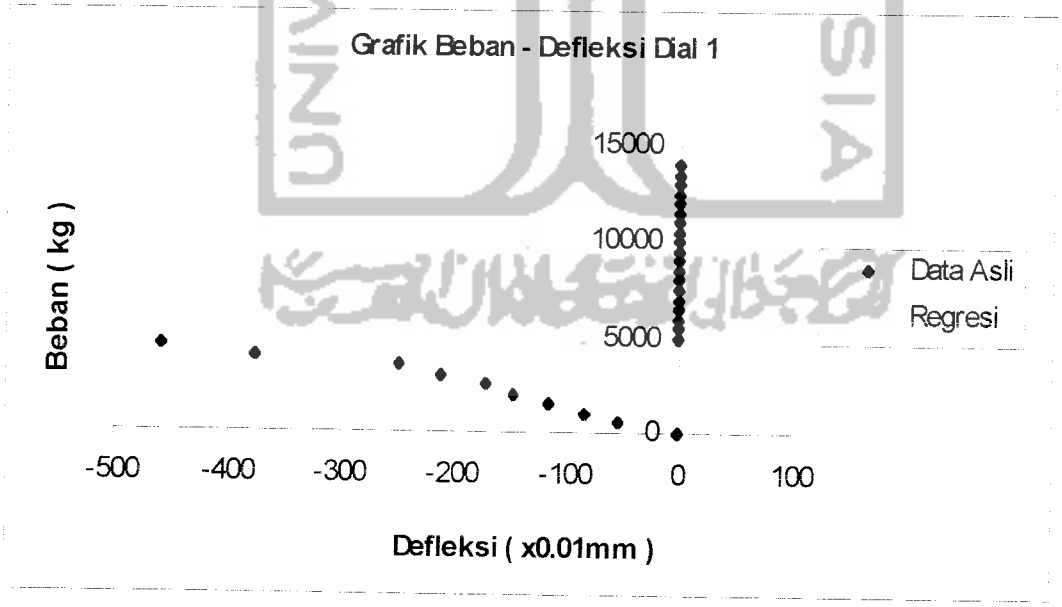
Gambar 5.21 Grafik Beban – Defleksi Dial 4 Benda Uji 1,0m / C / 1



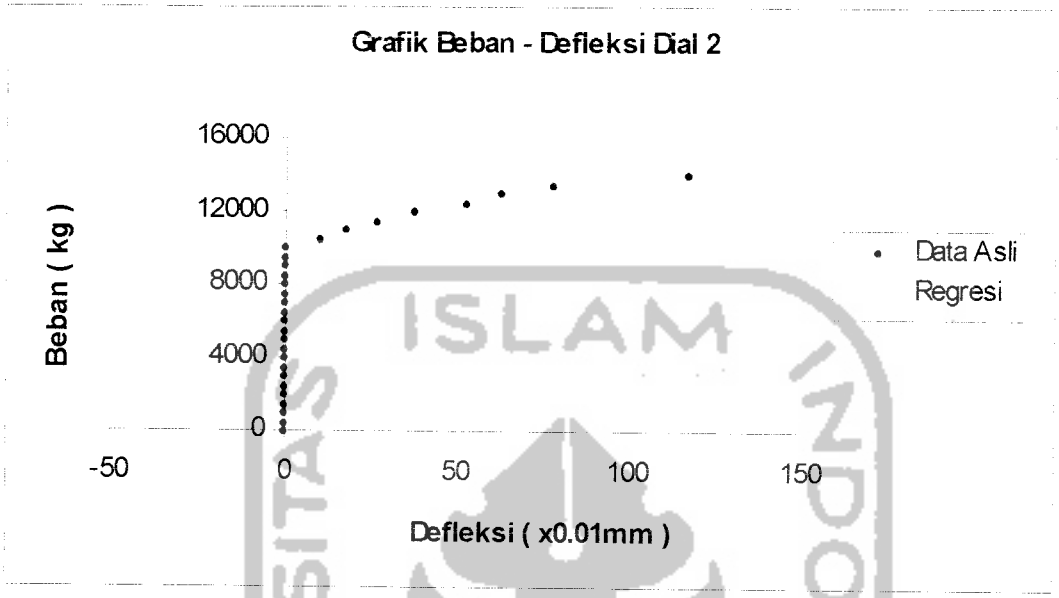
Gambar 5.22 Grafik Beban – Defleksi Dial 5 Benda Uji 1,0m / C / 1



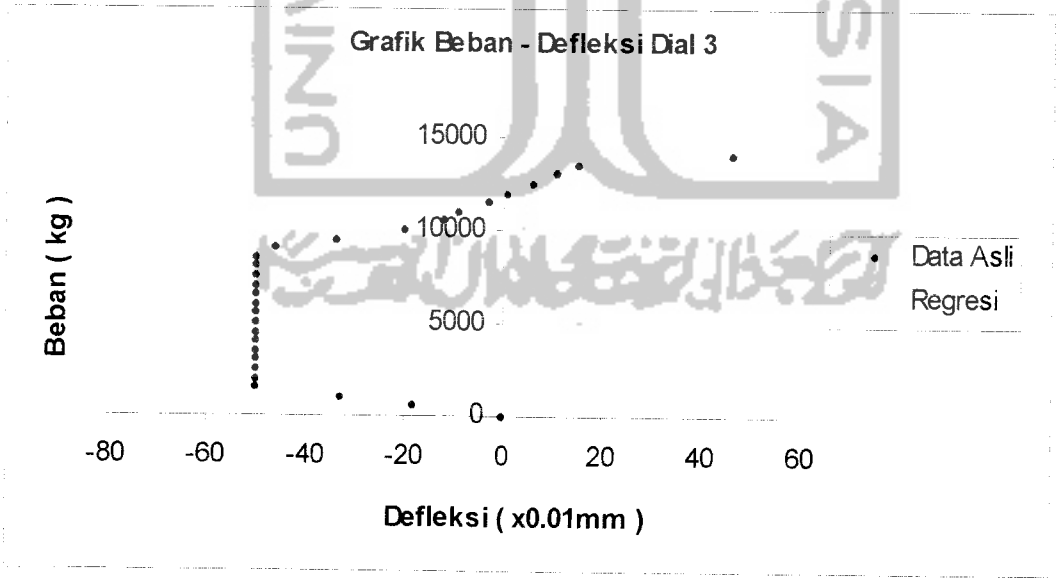
Gambar 5.23 Grafik Beban – Defleksi Dial 6 Benda Uji 1,0m / C / 1



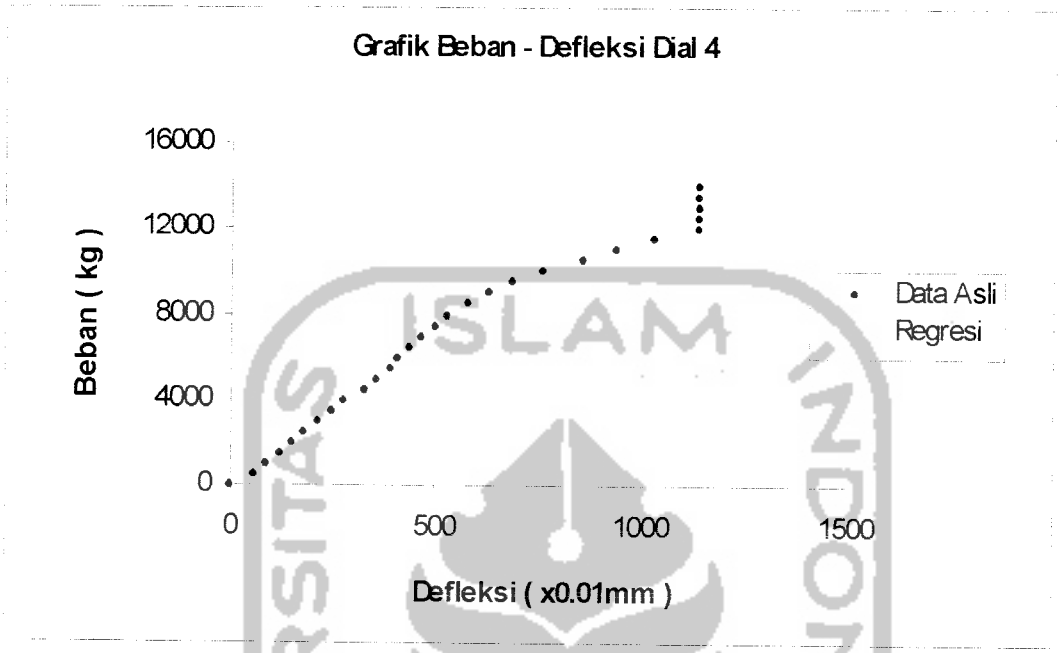
Gambar 5.24 Grafik Beban – Defleksi Dial 1 Benda Uji 1,3m / A / 2



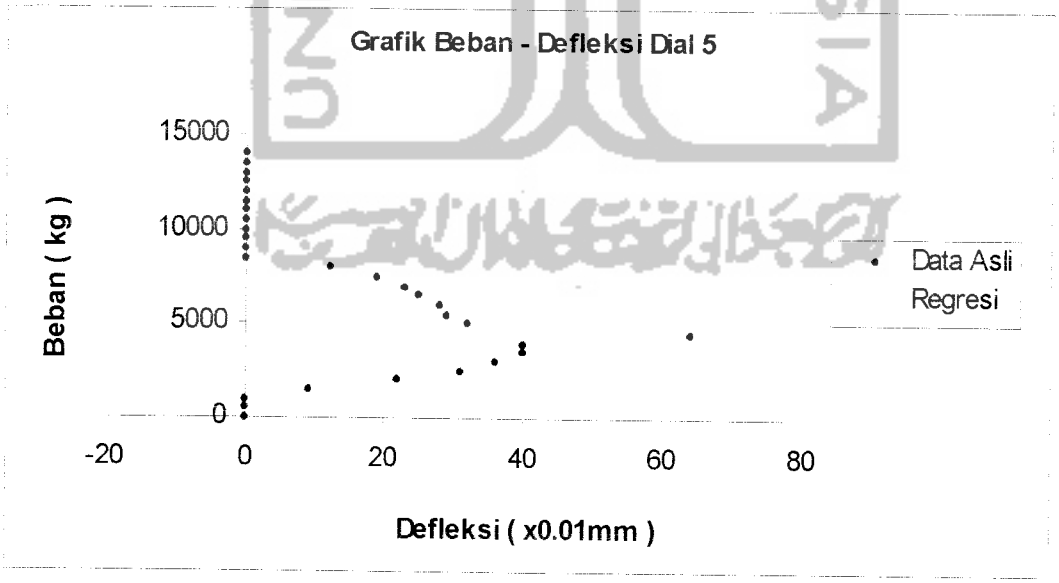
Gambar 5.25 Grafik Beban – Defleksi Dial 2 Benda Uji 1,3m / A / 2



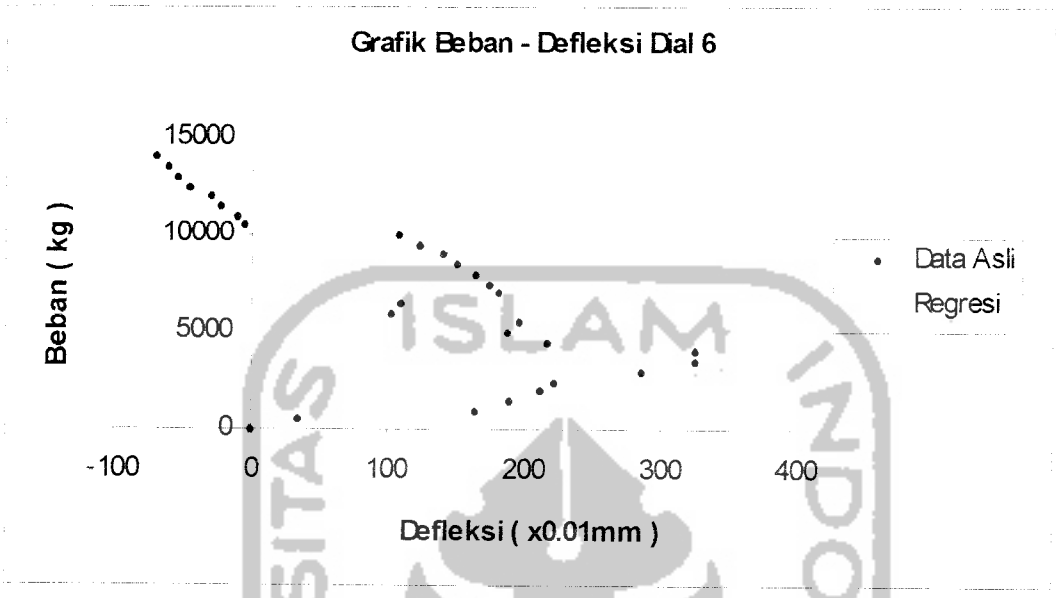
Gambar 5.26 Grafik Beban – Defleksi Dial 3 Benda Uji 1,3m / A / 2



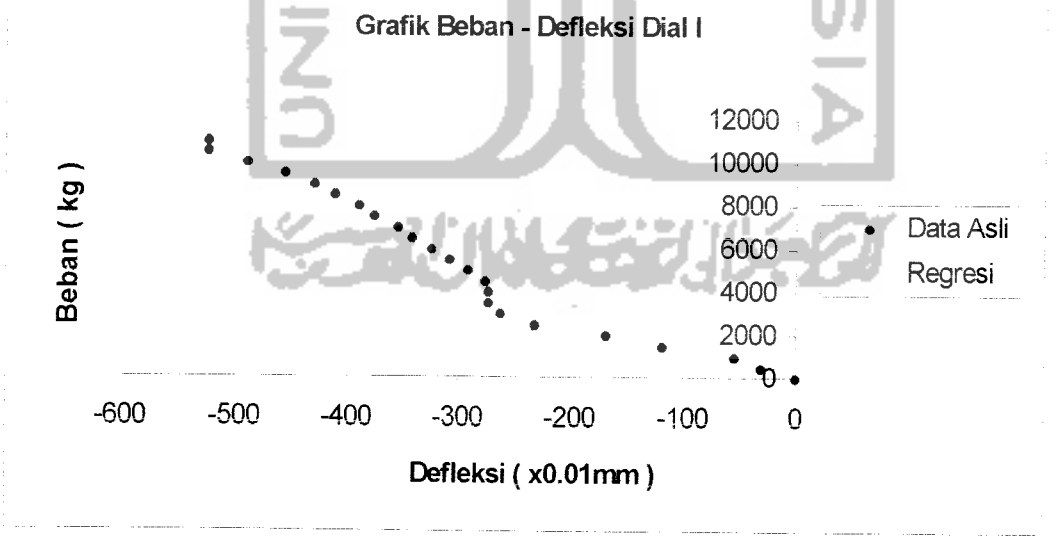
Gambar 5.27 Grafik Beban – Defleksi Dial 4 Benda Uji 1,3m / A / 2



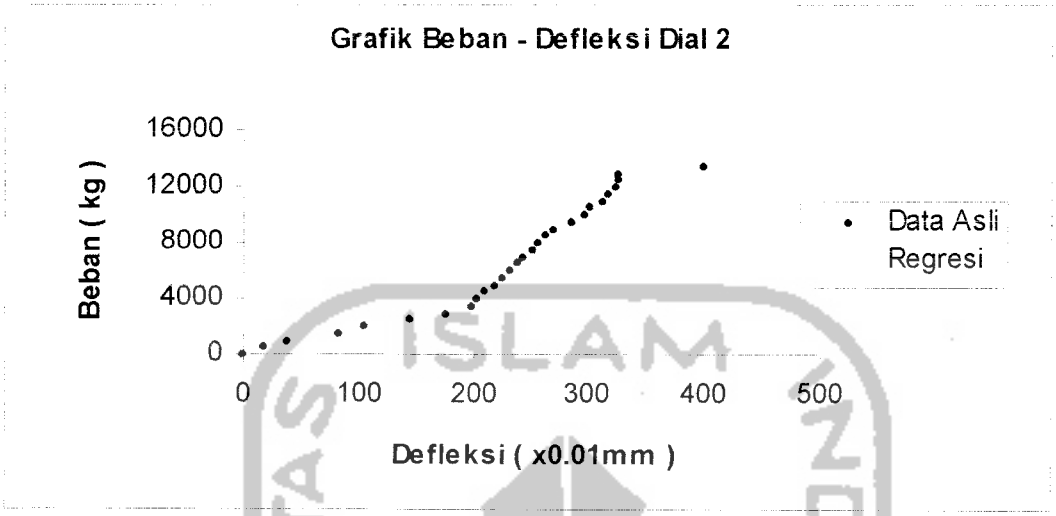
Gambar 5.28 Grafik Beban – Defleksi Dial 5 Benda Uji 1,3m / A / 2



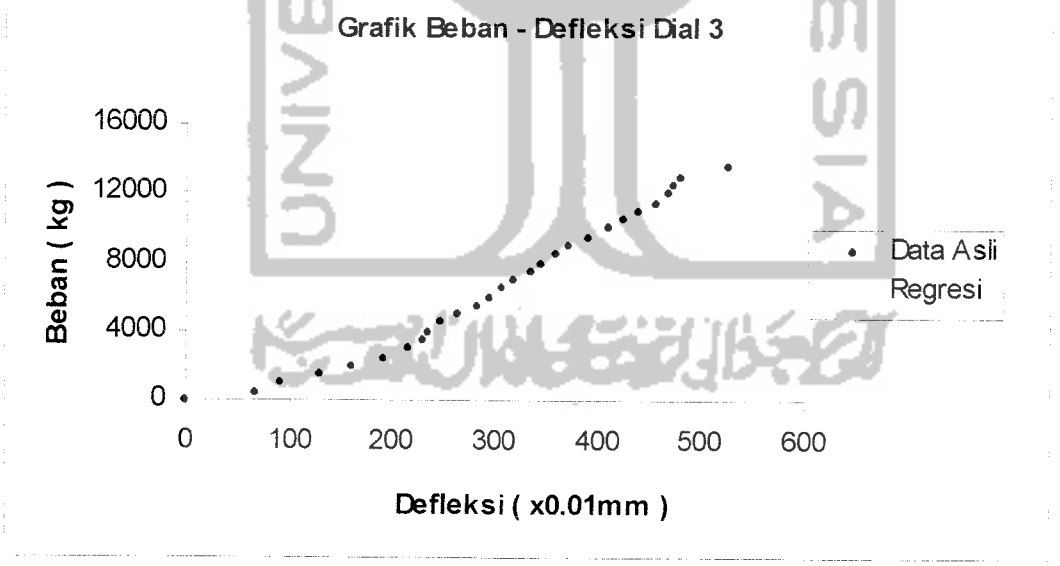
Gambar 5.29 Grafik Beban – Defleksi Dial 6 Benda Uji 1,3m / A / 2



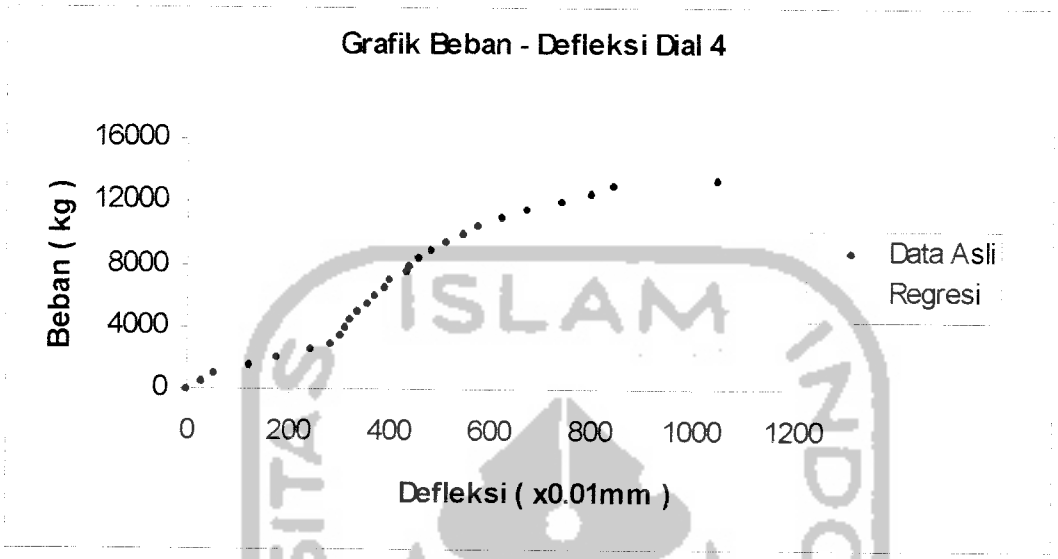
Gambar 5.30 Grafik Beban – Defleksi Dial 1 Benda Uji 1,3m / B / 2



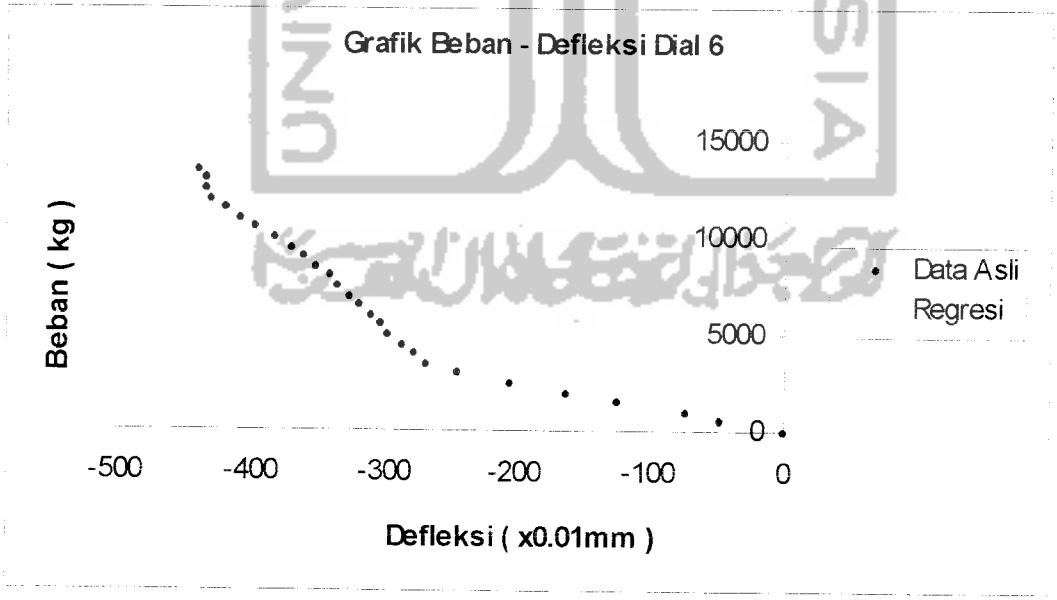
Gambar 5.31 Grafik Beban – Defleksi Dial 2 Benda Uji 1,3m / B / 2



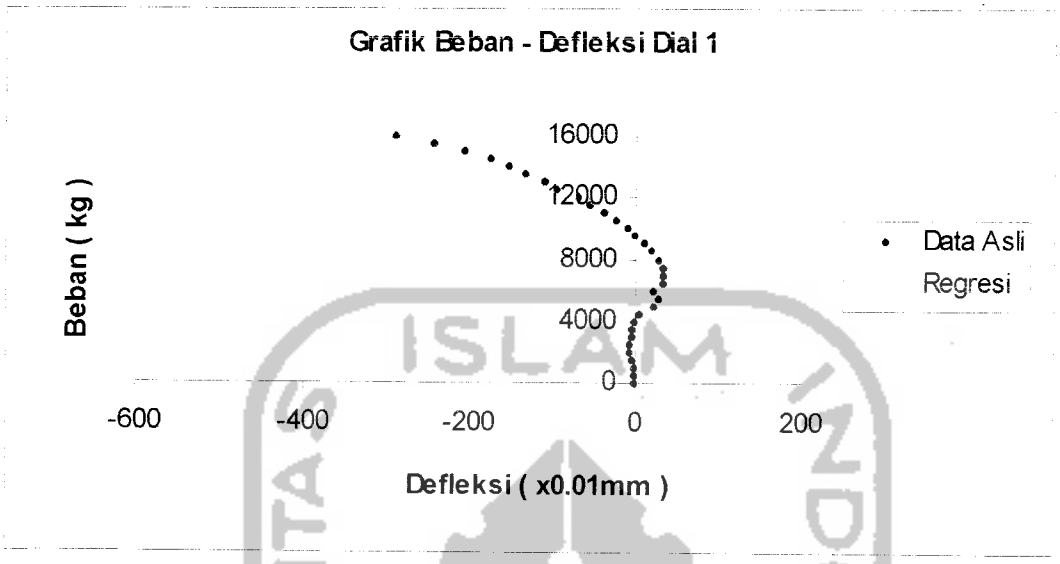
Gambar 5.32 Grafik Beban – Defleksi Dial 3 Benda Uji 1,3m / B / 2



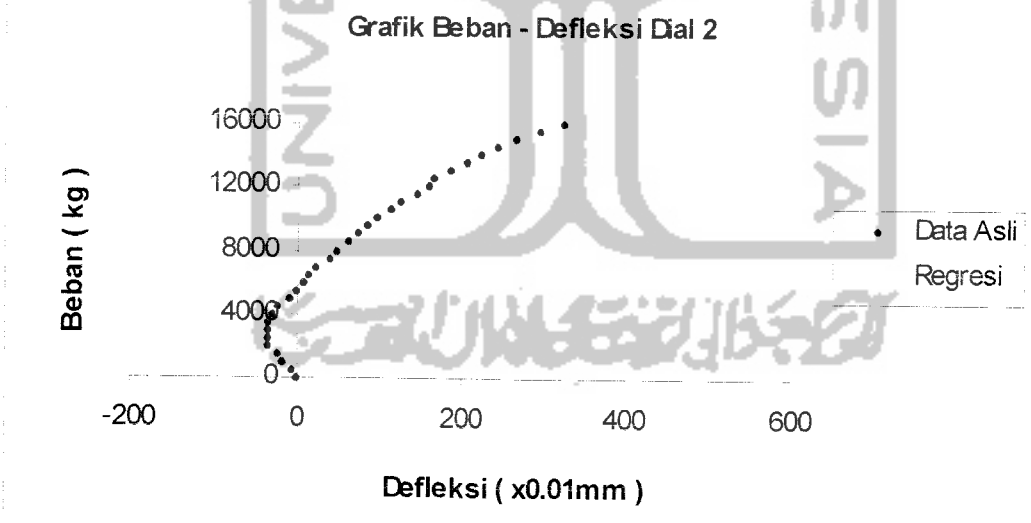
Gambar 5.33 Grafik Beban – Defleksi Dial 4 Benda Uji 1,3m / B / 2



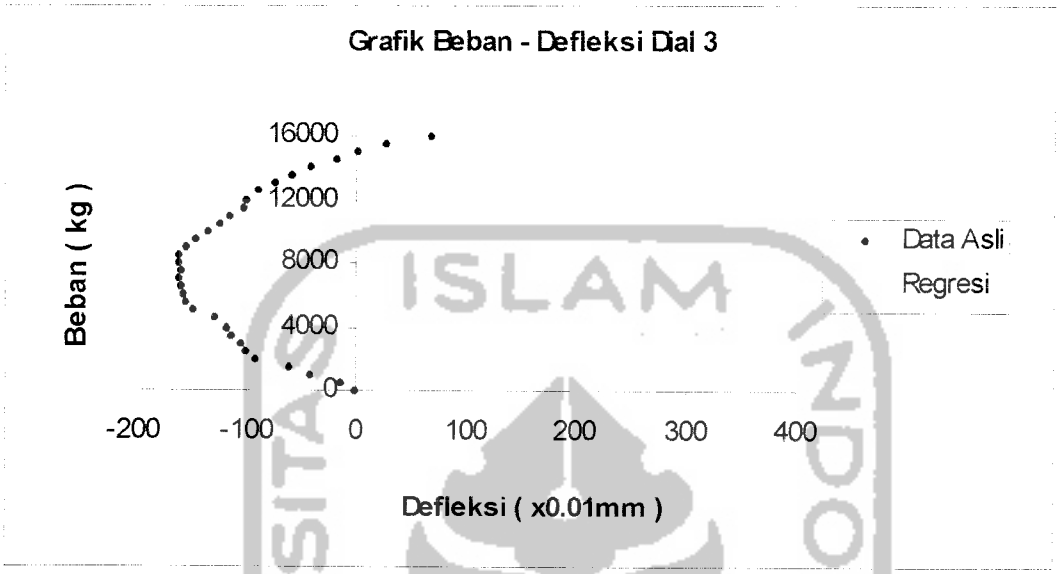
Gambar 5.34 Grafik Beban – Defleksi Dial 6 Benda Uji 1,3m / B / 2



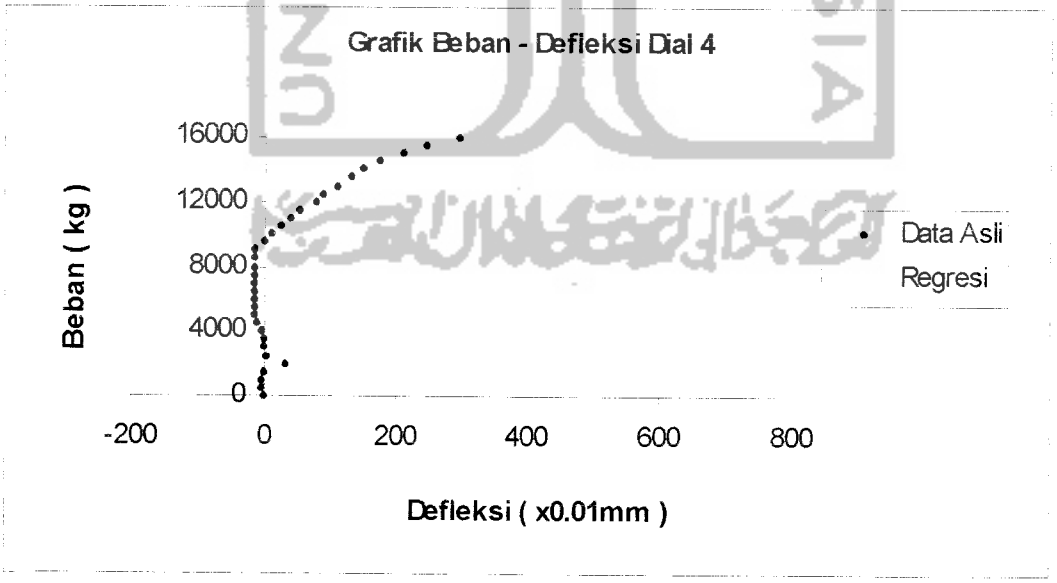
Gambar 5.35 Grafik Beban – Defleksi Dial 1 Benda Uji 1,3m / C / 2



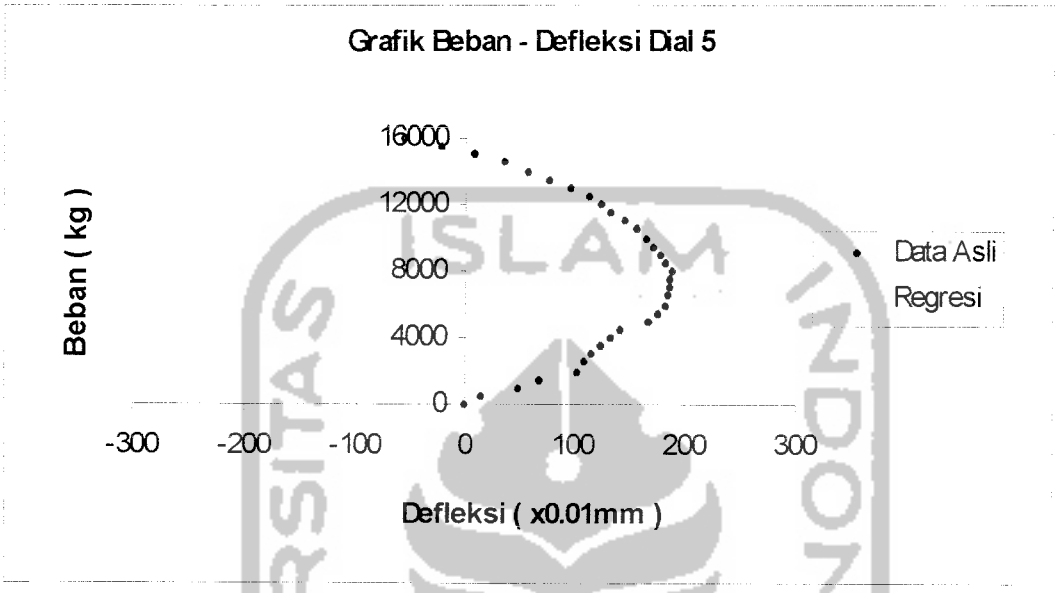
Gambar 5.36 Grafik Beban – Defleksi Dial 2 Benda Uji 1,3m / C / 2



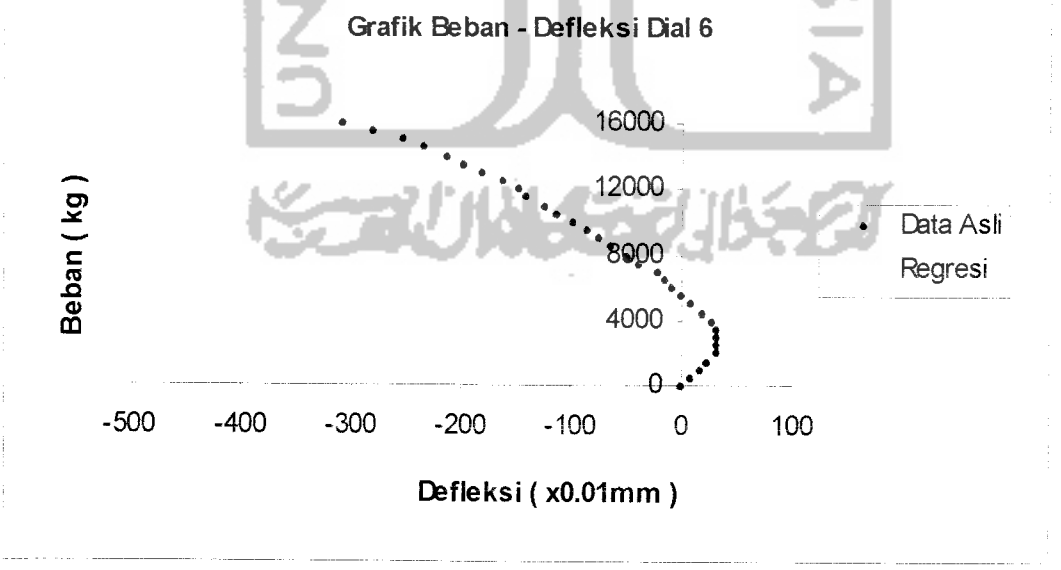
Gambar 5.37 Grafik Beban – Defleksi Dial 3 Benda Uji 1,3m / C / 2



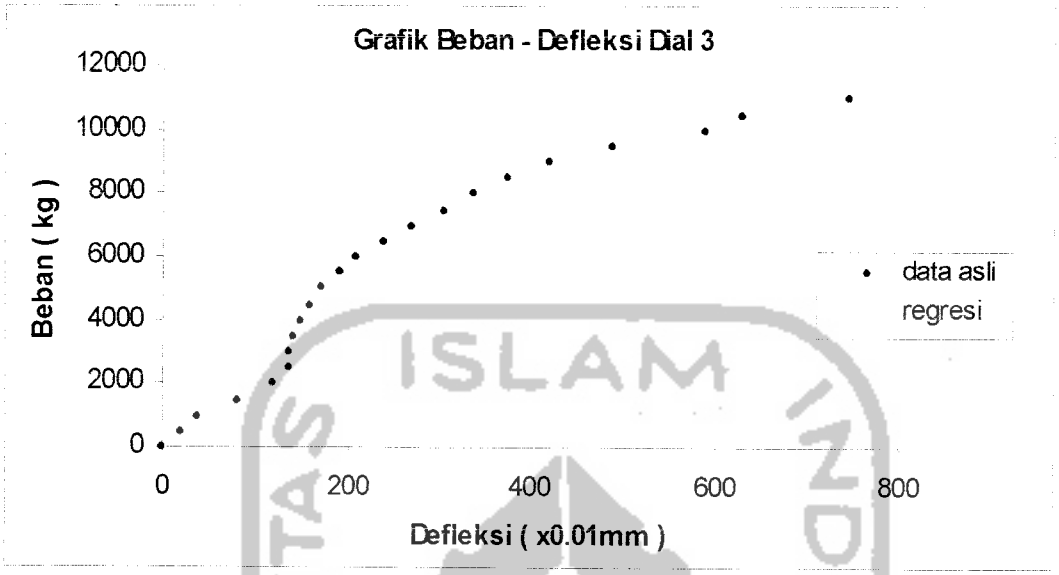
Gambar 5.38 Grafik Beban – Defleksi Dial 4 Benda Uji 1,3m / C / 2



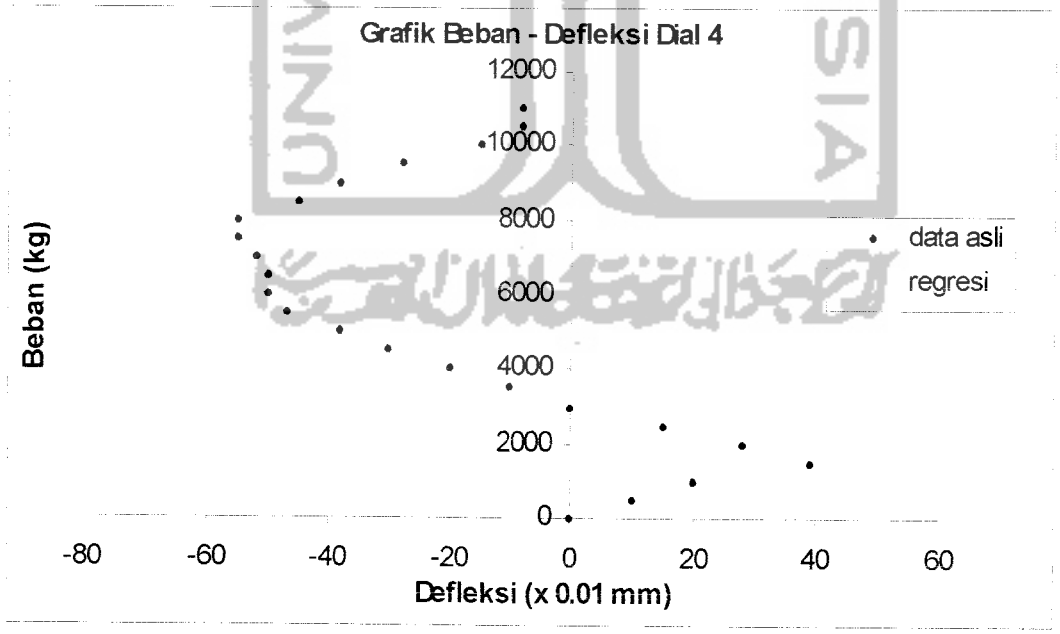
Gambar 5.39 Grafik Beban – Defleksi Dial 5 Benda Uji 1,3m / C / 2



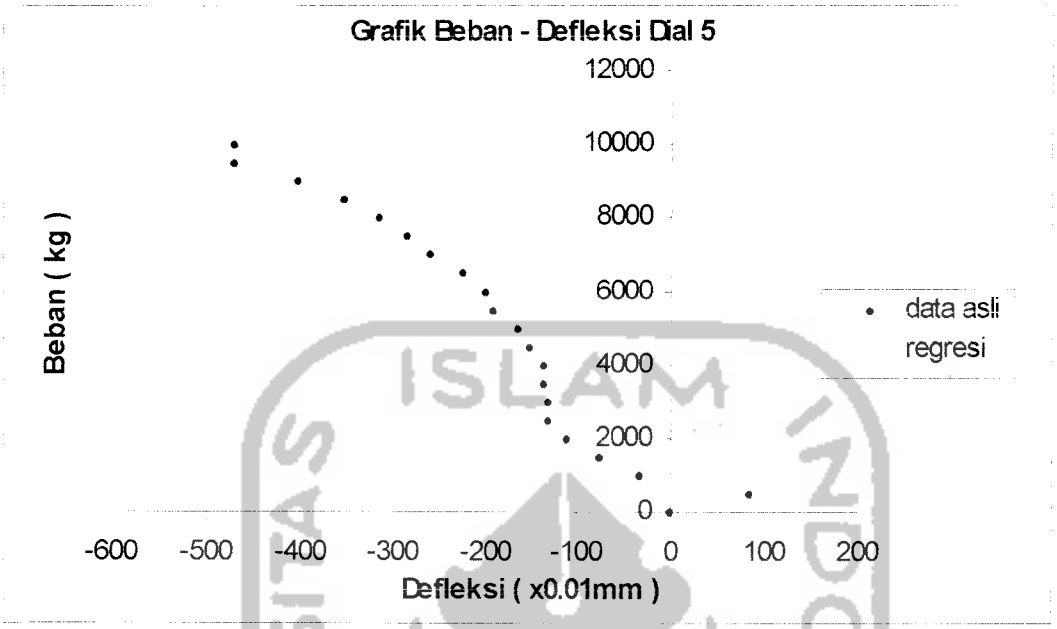
Gambar 5.40 Grafik Beban – Defleksi Dial 6 Benda Uji 1,3m / C / 2



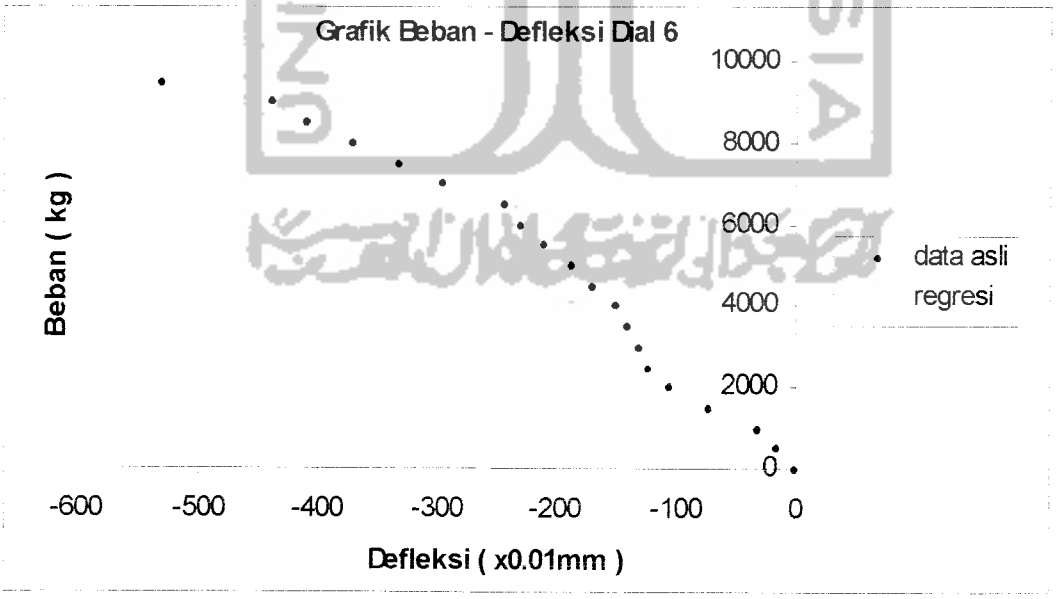
Gambar 5.43 Grafik Beban – Defleksi Dial 3 Benda Uji 1,6m / A / 3



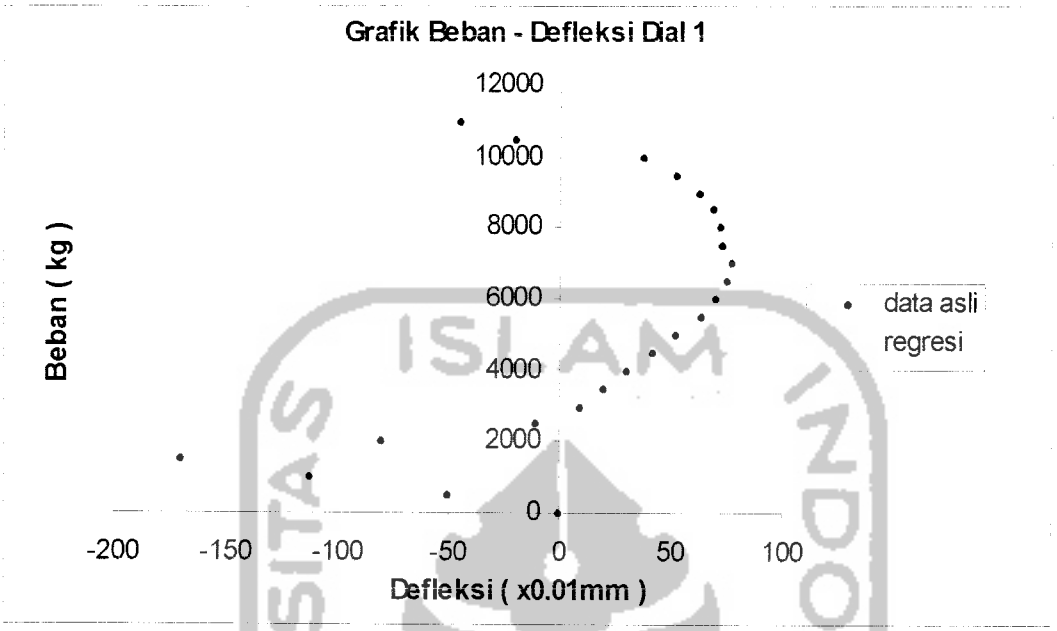
Gambar 5.44 Grafik Beban – Defleksi Dial 4 Benda Uji 1,6m / A / 3



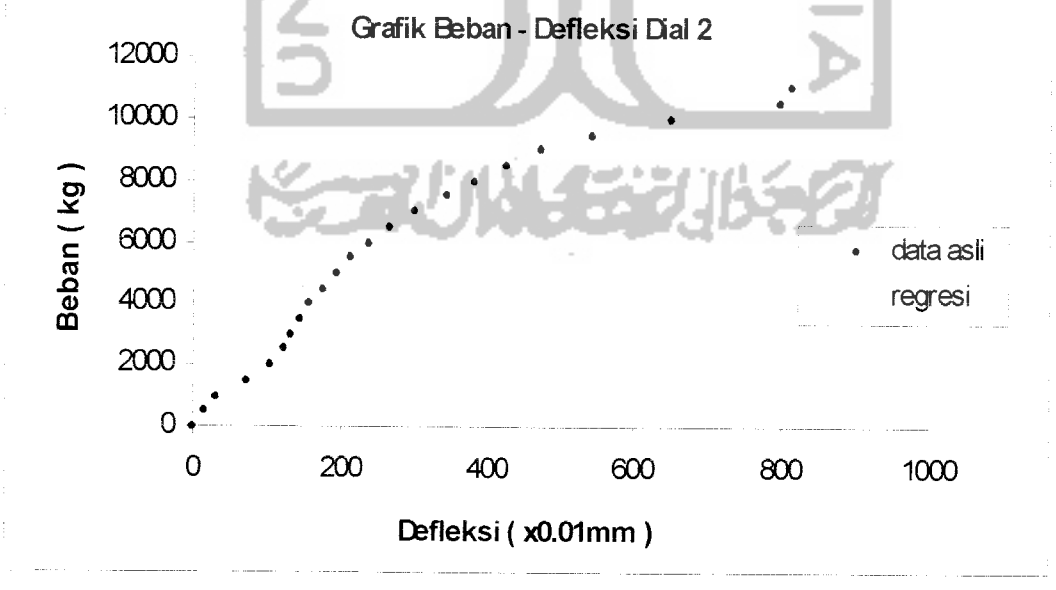
Gambar 5.45 Grafik Beban – Defleksi Dial 5 Benda Uji 1,6m / A / 3



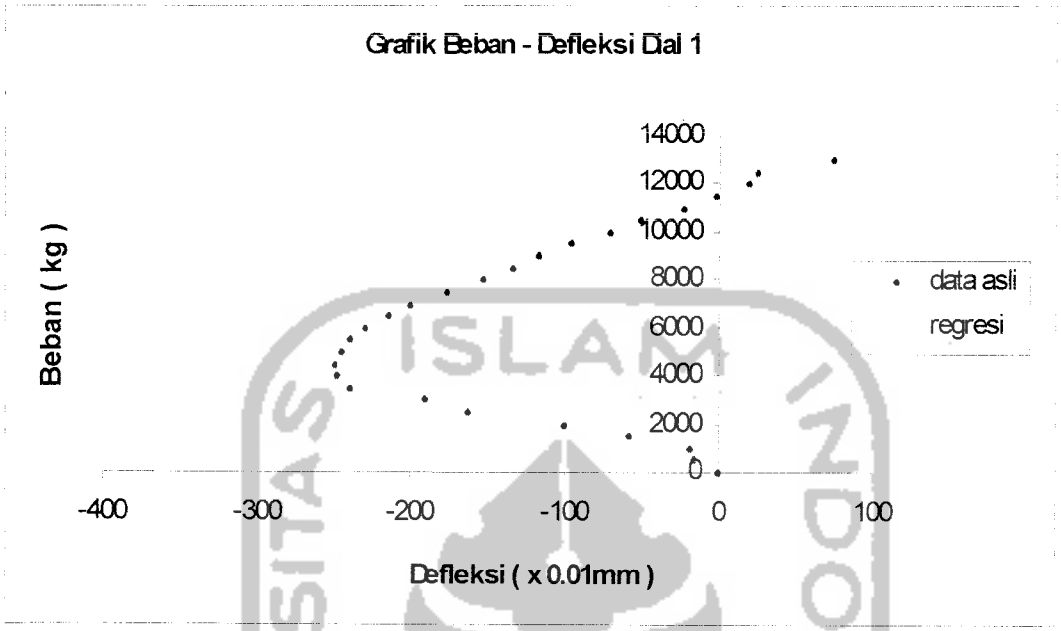
Gambar 5.46 Grafik Beban – Defleksi Dial 6 Benda Uji 1,6m / A / 3



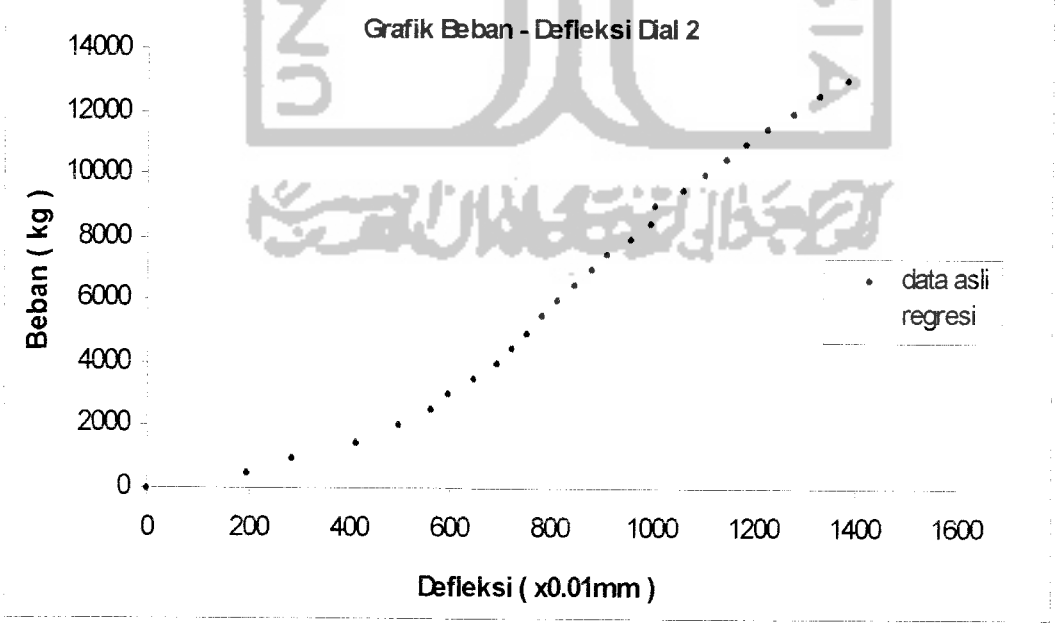
Gambar 5.41 Grafik Beban – Defleksi Dial 1 Benda Uji 1,6m / A / 3



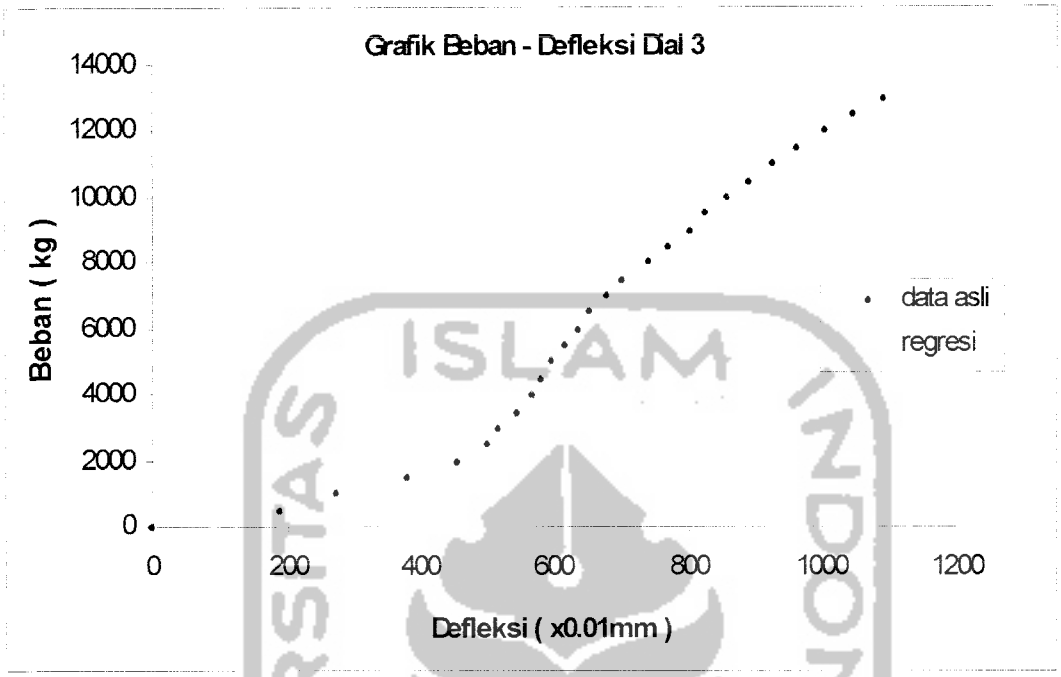
Gambar 5.42 Grafik Beban – Defleksi Dial 2 Benda Uji 1,6m / A / 3



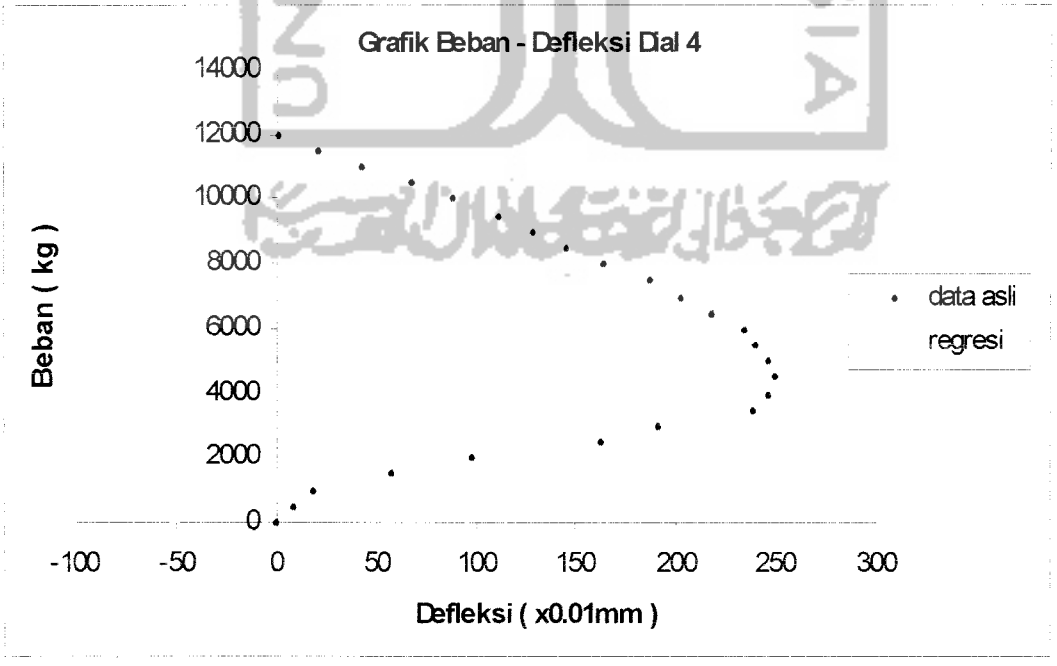
Gambar 5.47 Grafik Beban – Defleksi Dial 1 Benda Uji 1,6m / B / 3



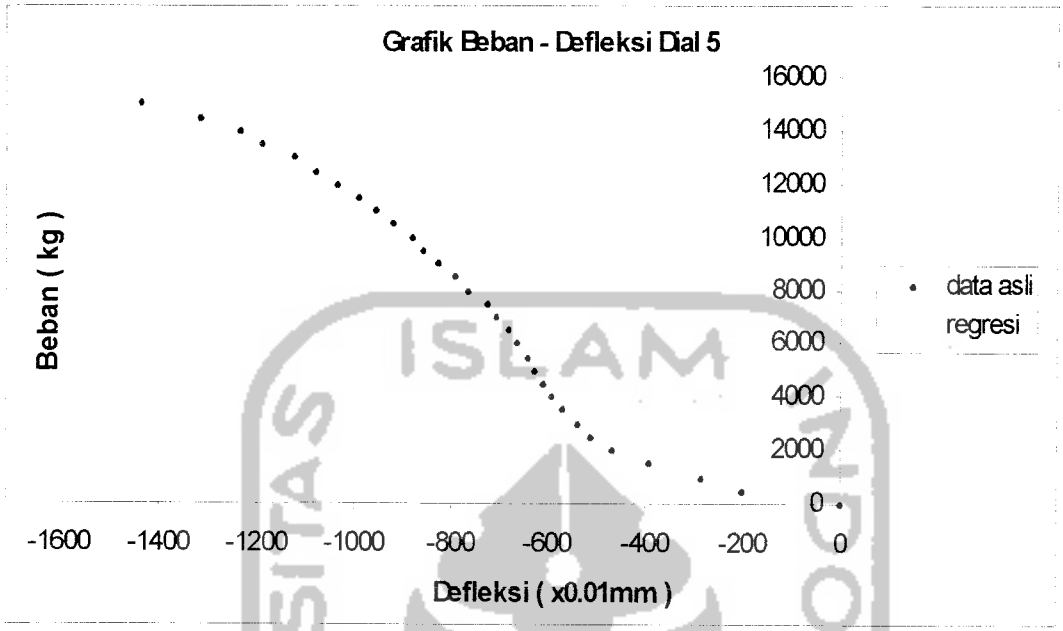
Gambar 5.48 Grafik Beban – Defleksi Dial 2 Benda Uji 1,6m / B / 3



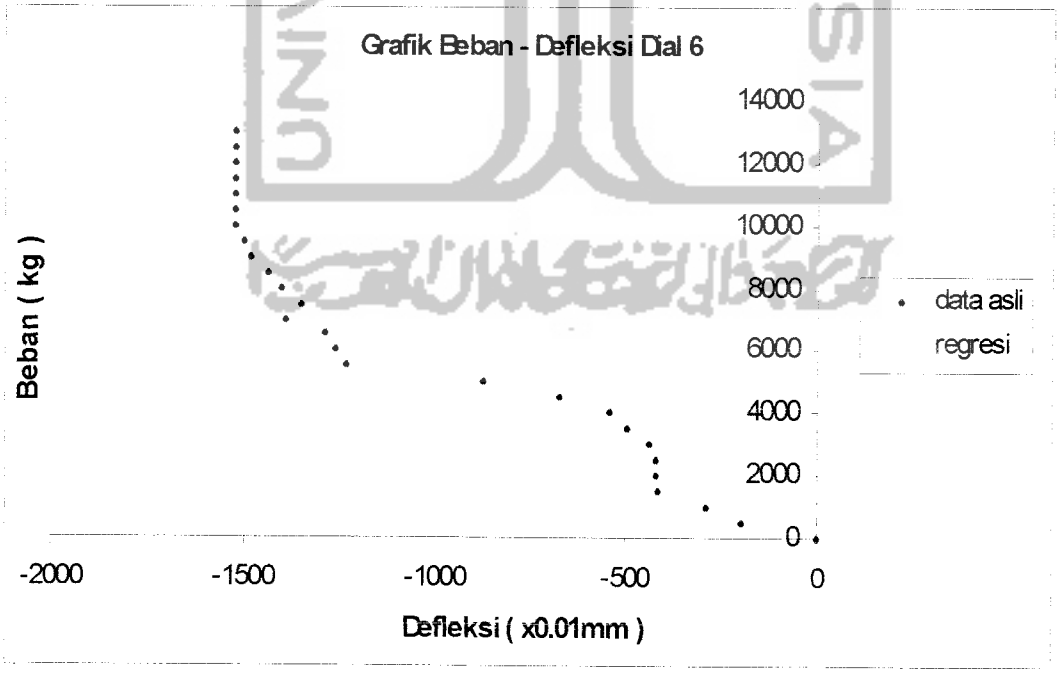
Gambar 5.49 Grafik Beban – Defleksi Dial 3 Benda Uji 1,6m / B / 3



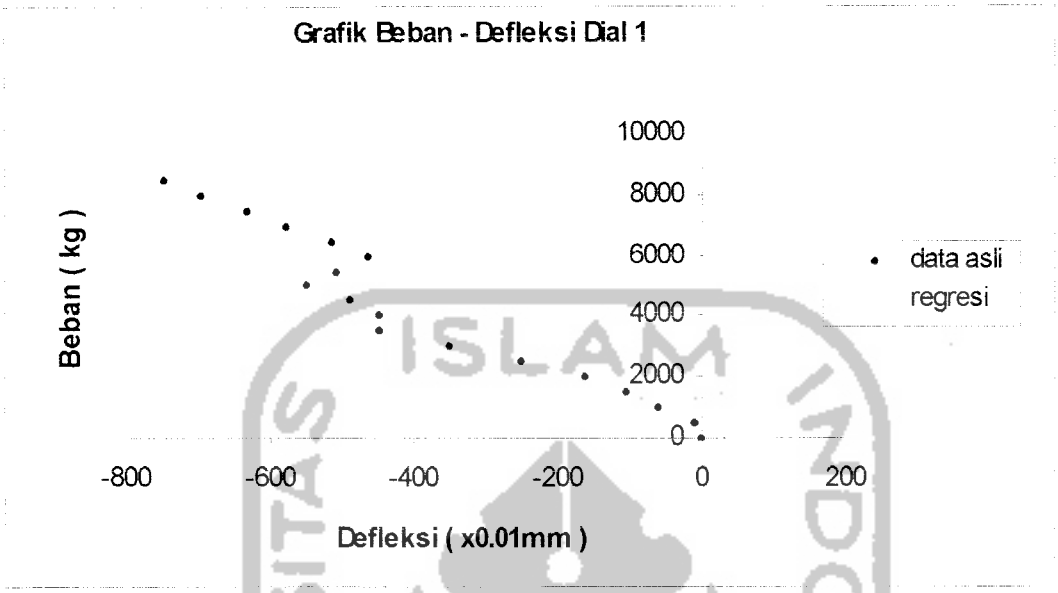
Gambar 5.50 Grafik Beban – Defleksi Dial 4 Benda Uji 1,6m / B / 3



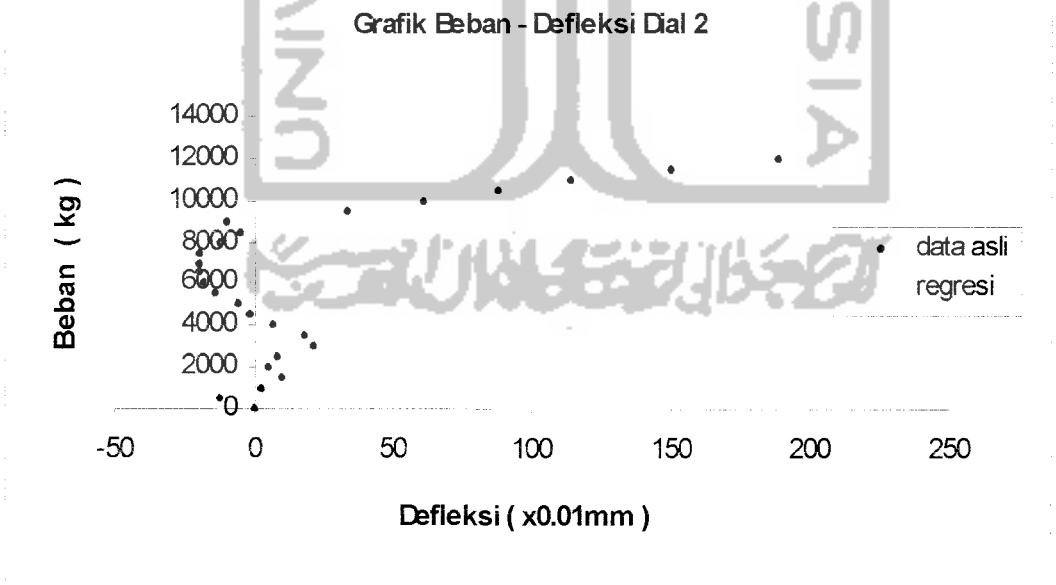
Gambar 5.51 Grafik Beban – Defleksi Dial 5 Benda Uji 1,6m / B / 3



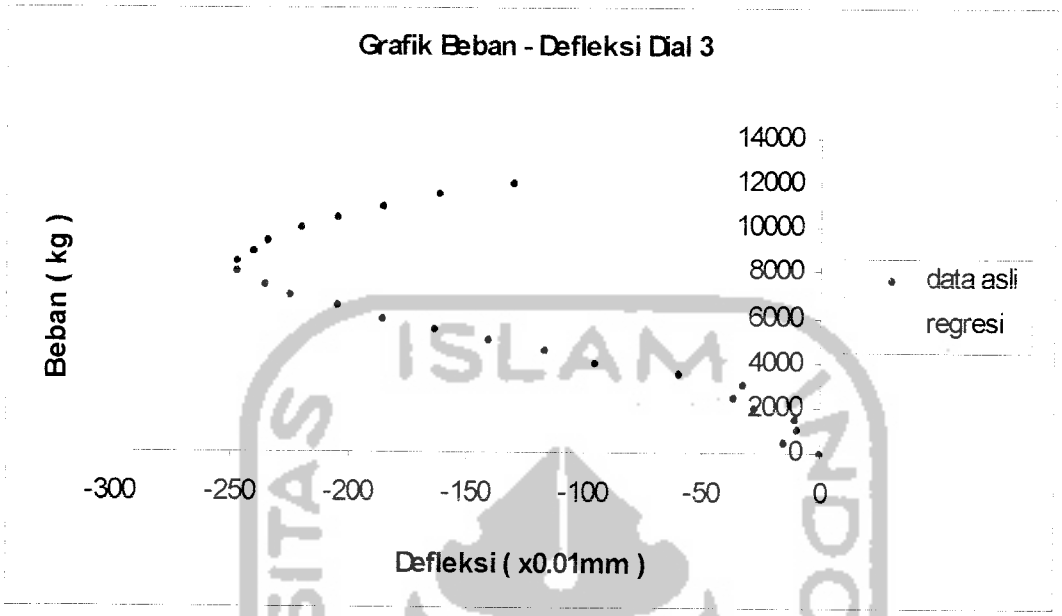
Gambar 5.52 Grafik Beban – Defleksi Dial 6 Benda Uji 1,6m / B / 3



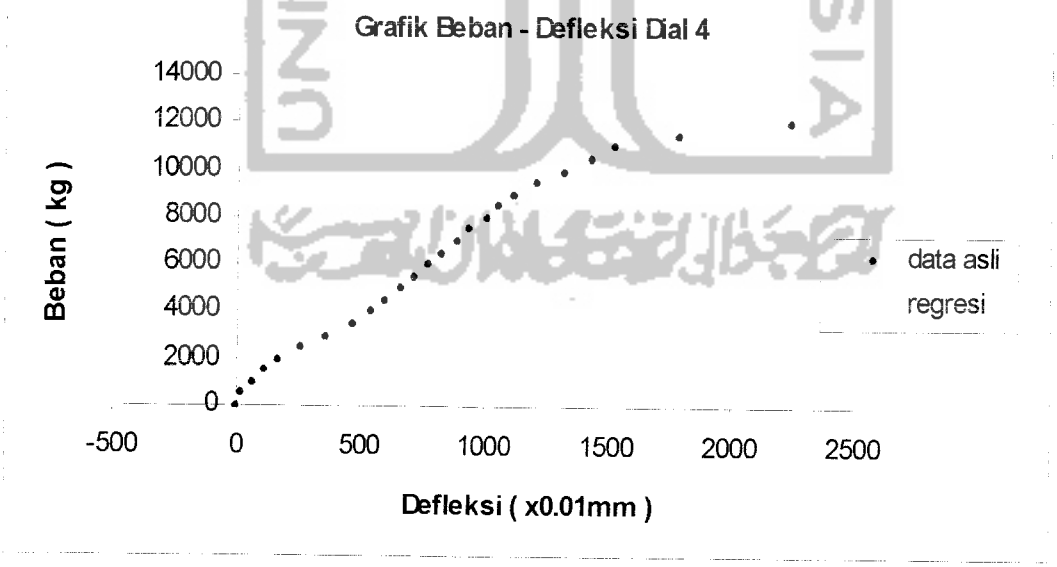
Gambar 5.53 Grafik Beban – Defleksi Dial 1 Benda Uji 1,6m / C / 3



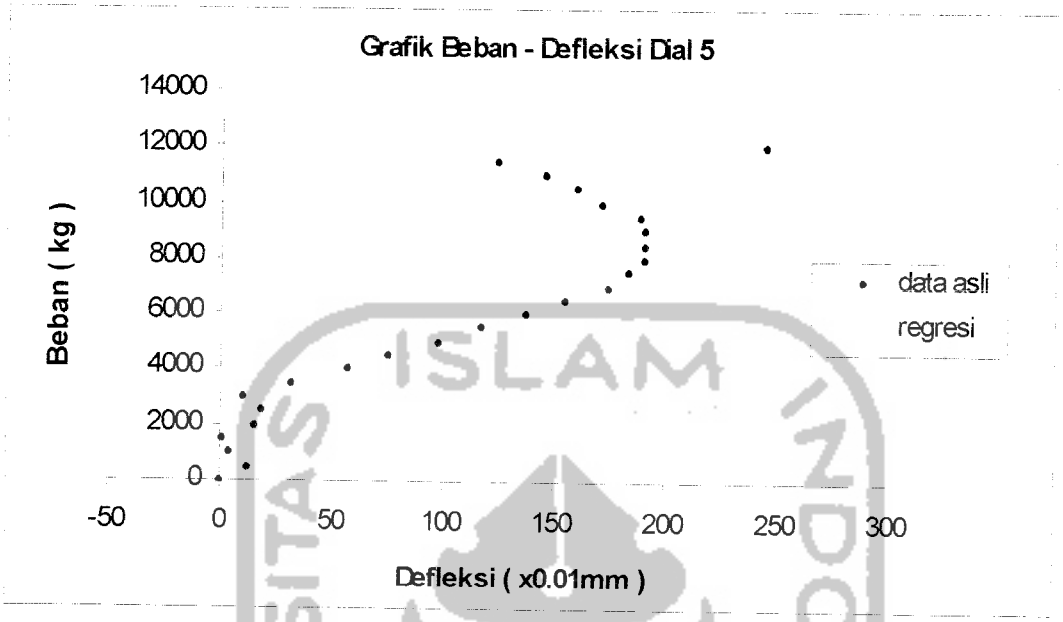
Gambar 5.54 Grafik Beban – Defleksi Dial 2 Benda Uji 1,6m / C / 3



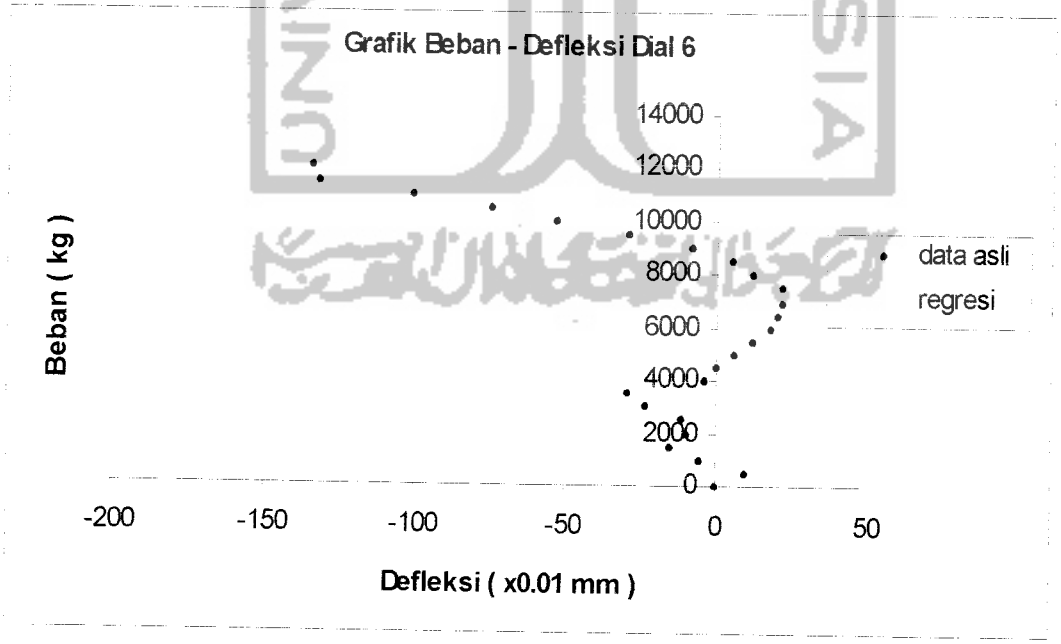
Gambar 5.55 Grafik Beban – Defleksi Dial 3 Benda Uji 1,6m / C / 3



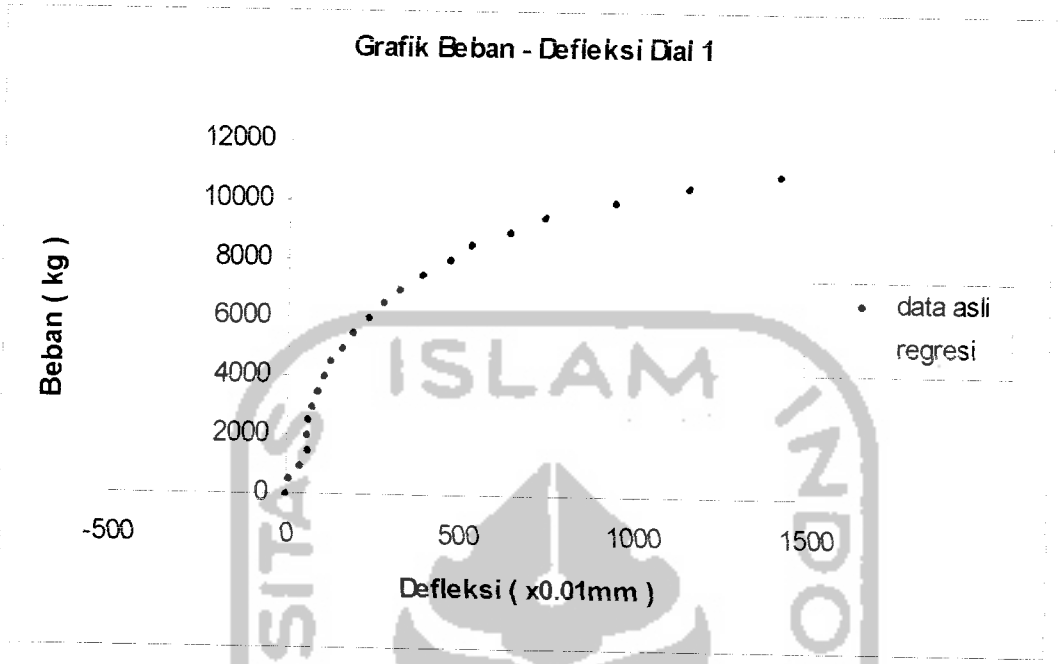
Gambar 5.56 Grafik Beban – Defleksi Dial 4 Benda Uji 1,6m / C / 3



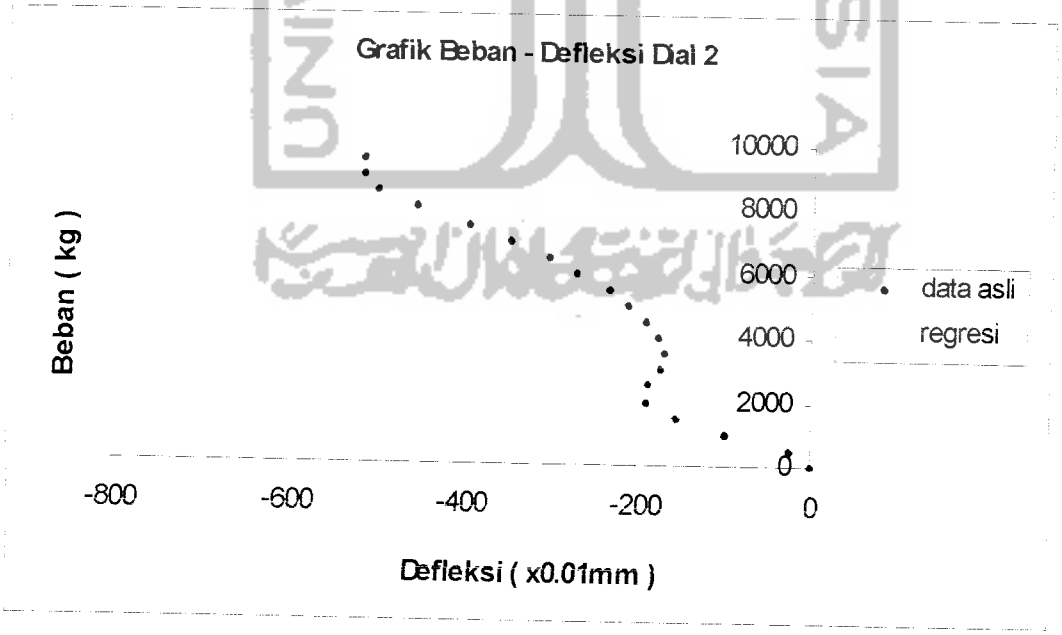
Gambar 5.57 Grafik Beban – Defleksi Dial 5 Benda Uji 1,6m / C / 3



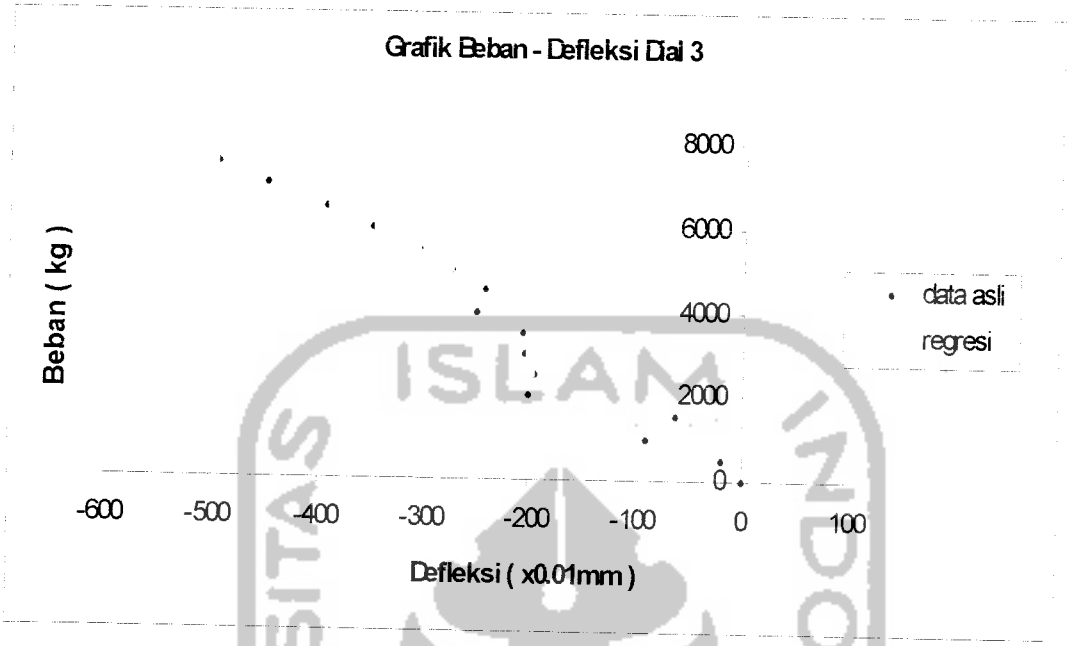
Gambar 5.58 Grafik Beban – Defleksi Dial 6 Benda Uji 1,6m / C / 3



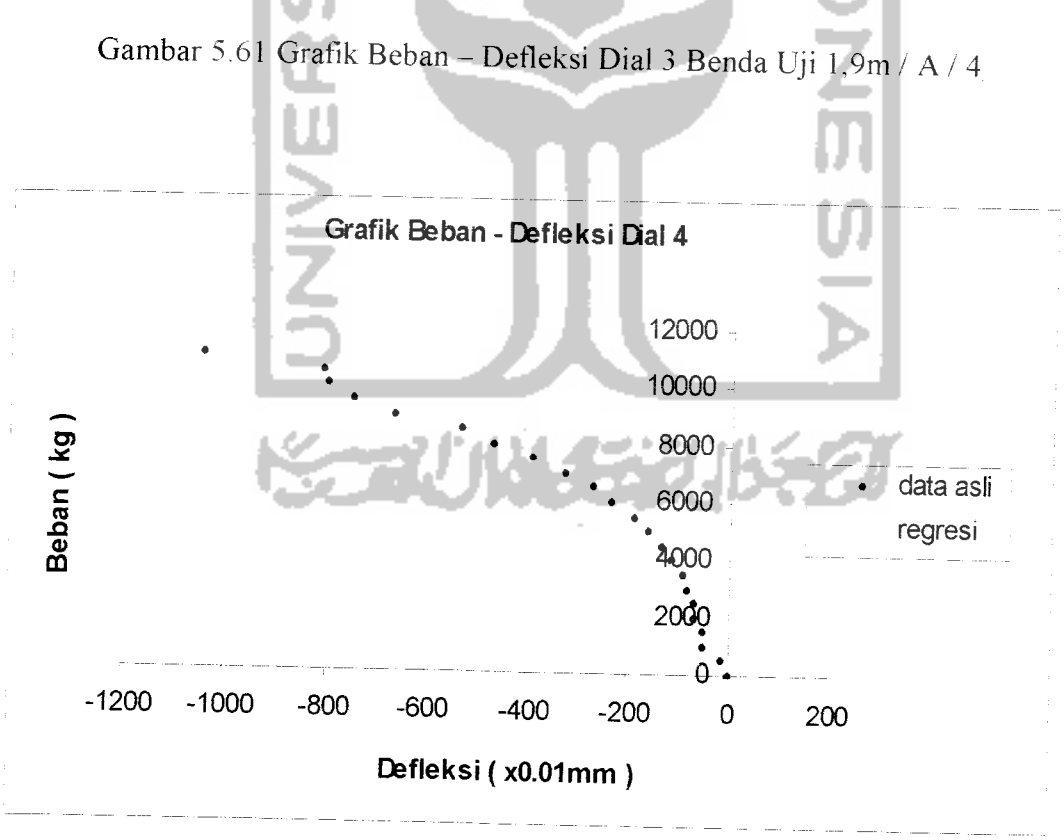
Gambar 5.59 Grafik Beban – Defleksi Dial 1 Benda Uji 1,9m / A / 4



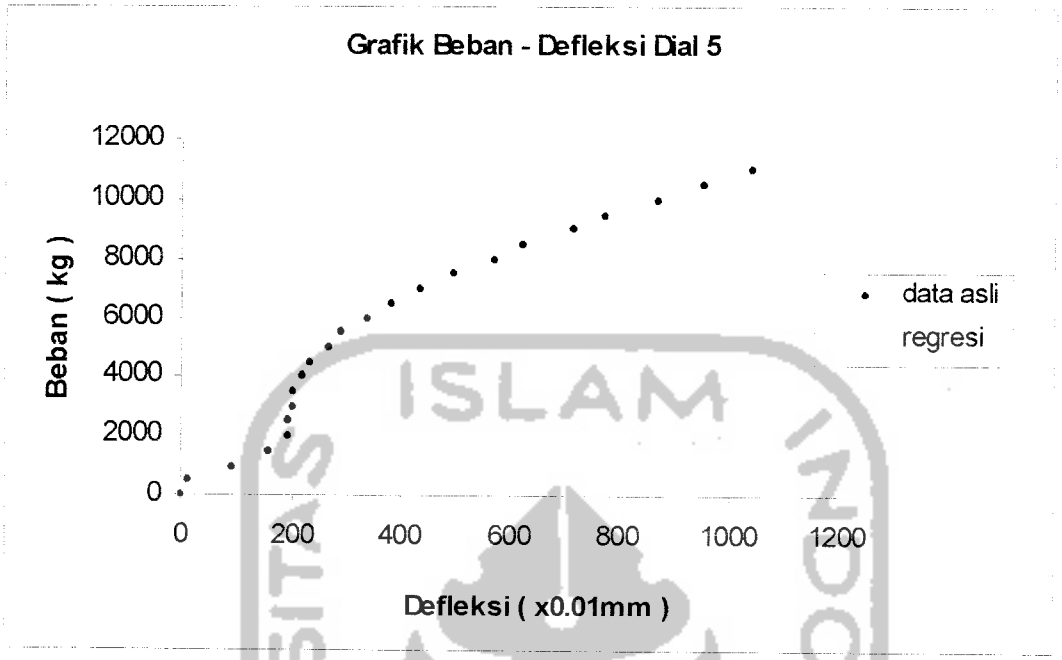
Gambar 5.60 Grafik Beban – Defleksi Dial 2 Benda Uji 1,9m / A / 4



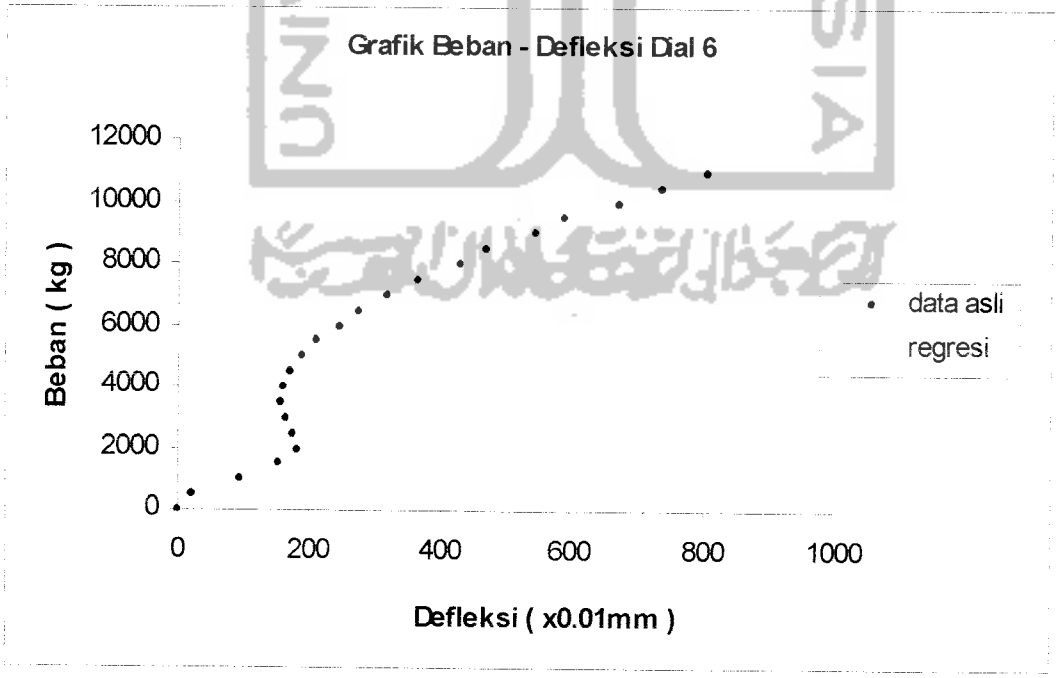
Gambar 5.61 Grafik Beban – Defleksi Dial 3 Benda Uji 1,9m / A / 4



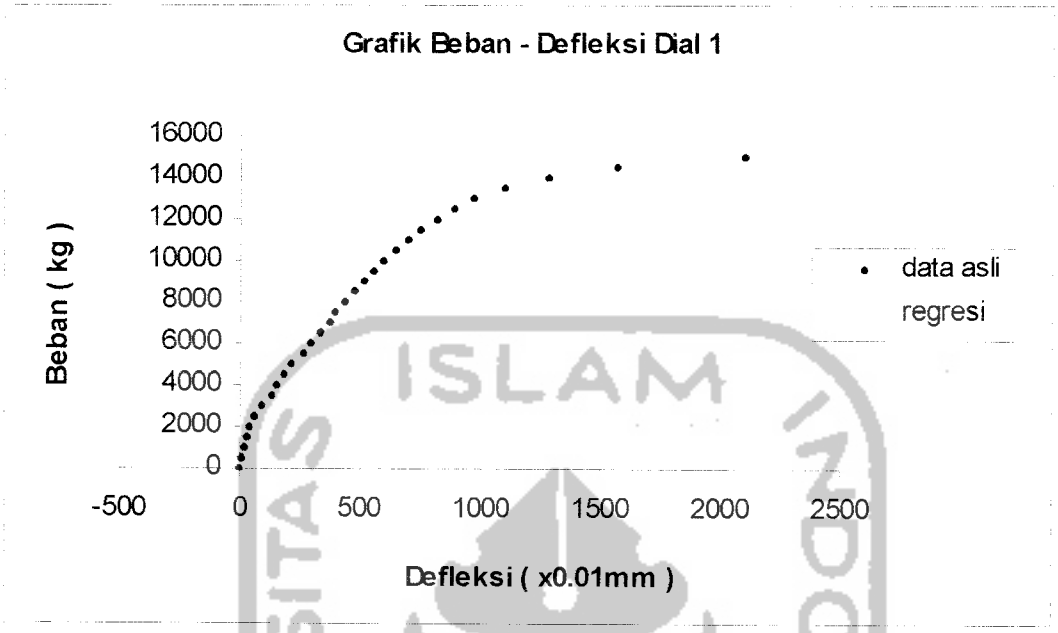
Gambar 5.62 Grafik Beban – Defleksi Dial 4 Benda Uji 1,9m / A / 4



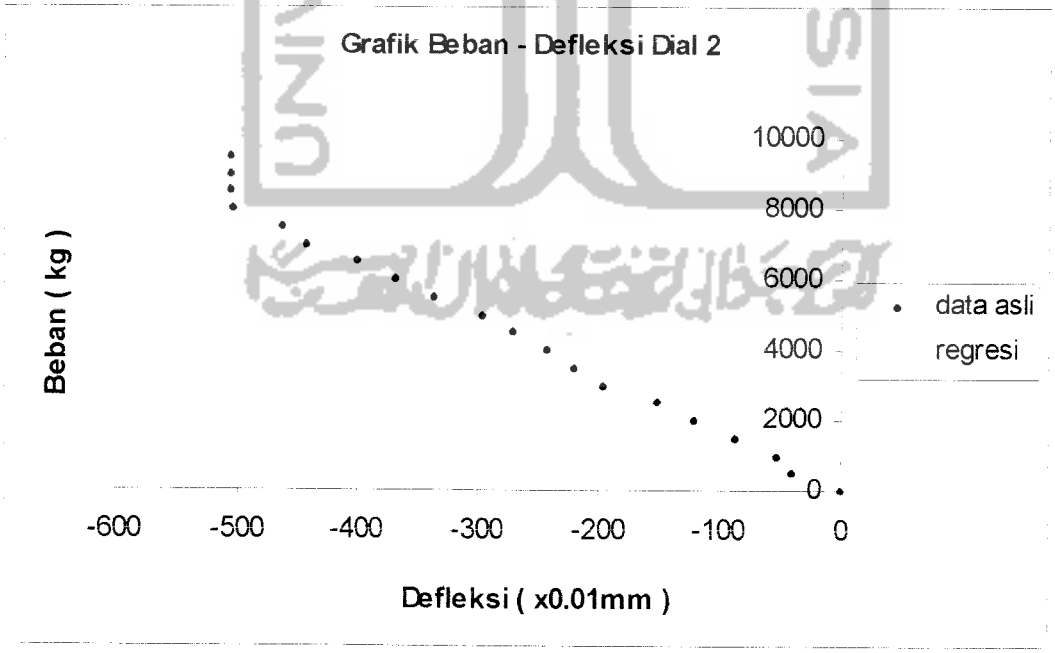
Gambar 5.63 Grafik Beban – Defleksi Dial 5 Benda Uji 1,9m / A / 4



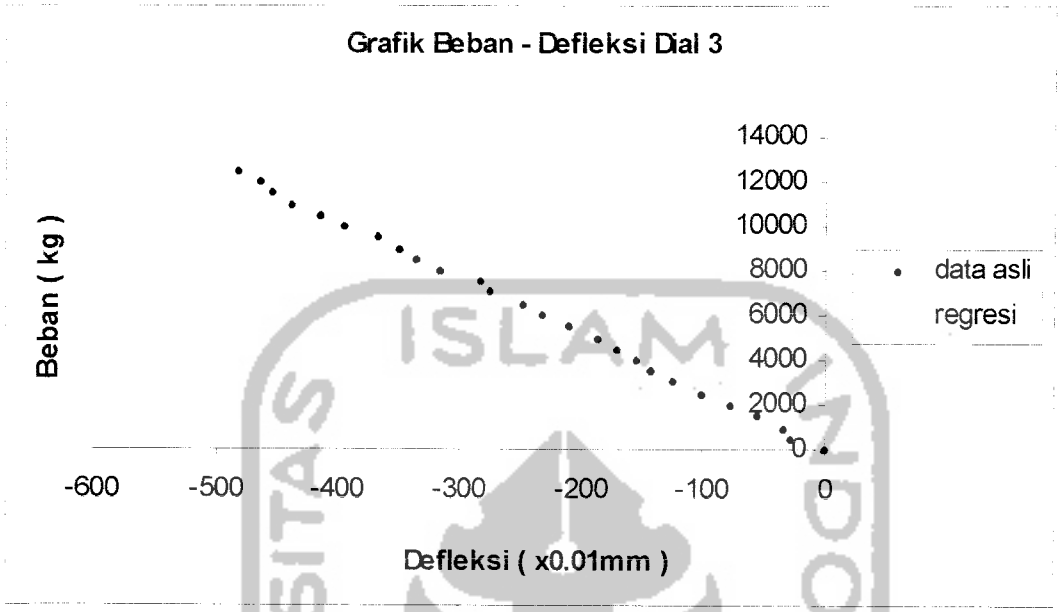
Gambar 5.64 Grafik Beban – Defleksi Dial 6 Benda Uji 1,9m / A / 4



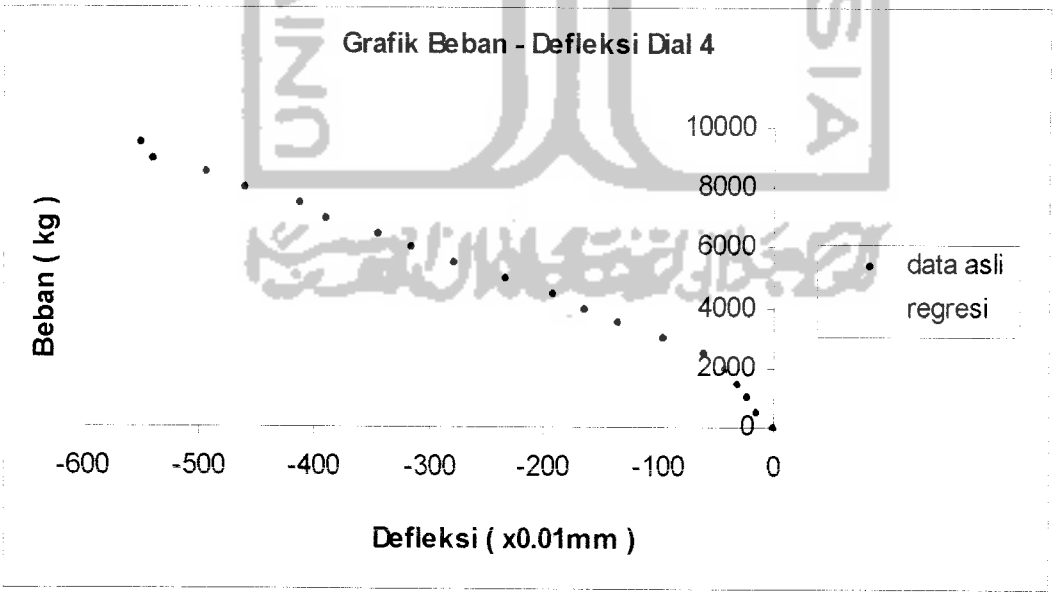
Gambar 5.65 Grafik Beban – Defleksi Dial 1 Benda Uji 1,9m / B / 4



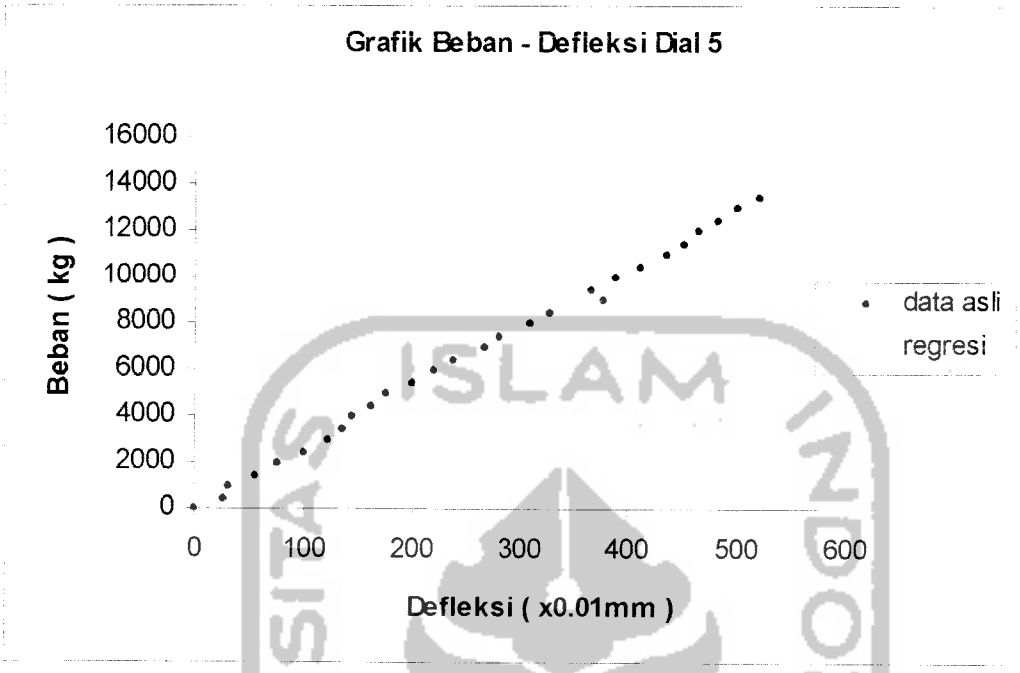
Gambar 5.66 Grafik Beban – Defleksi Dial 2 Benda Uji 1,9m / B / 4



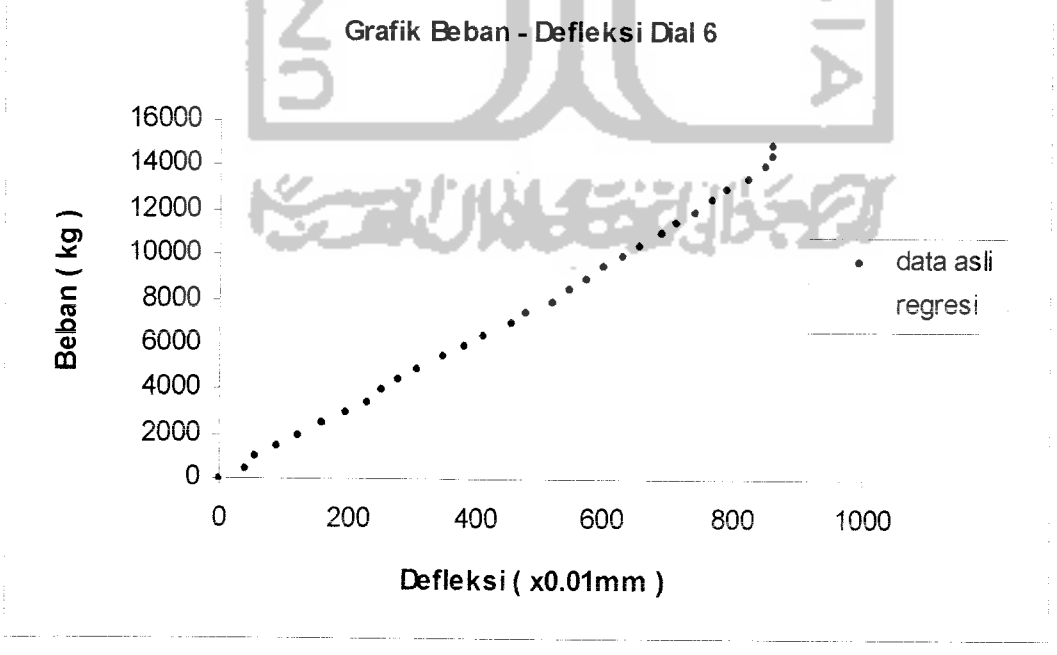
Gambar 5.67 Grafik Beban – Defleksi Dial 3 Benda Uji 1,9m / B / 4



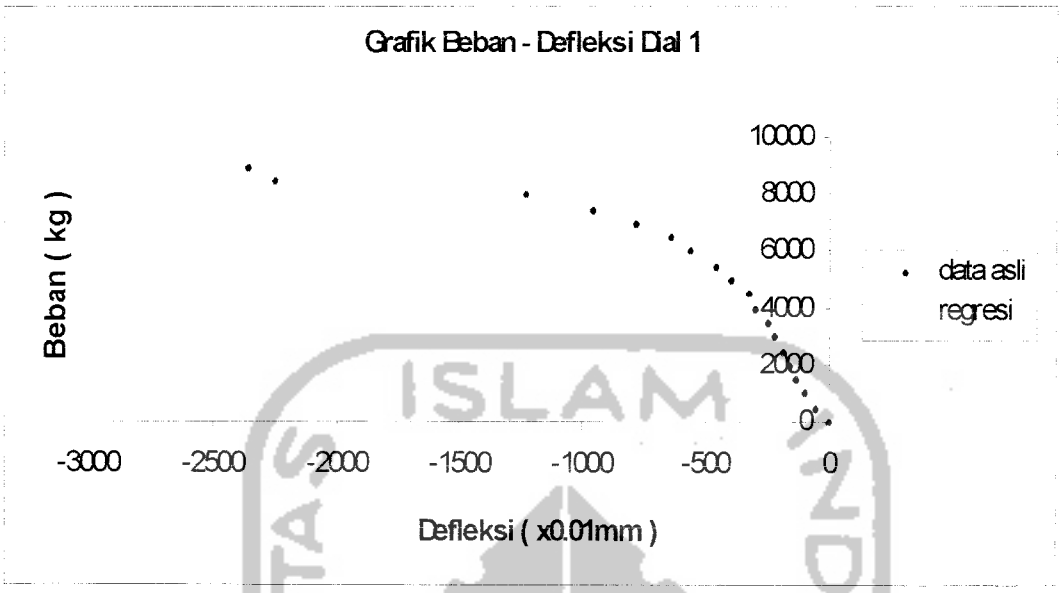
Gambar 5.68 Grafik Beban – Defleksi Dial 4 Benda Uji 1,9m / B / 4



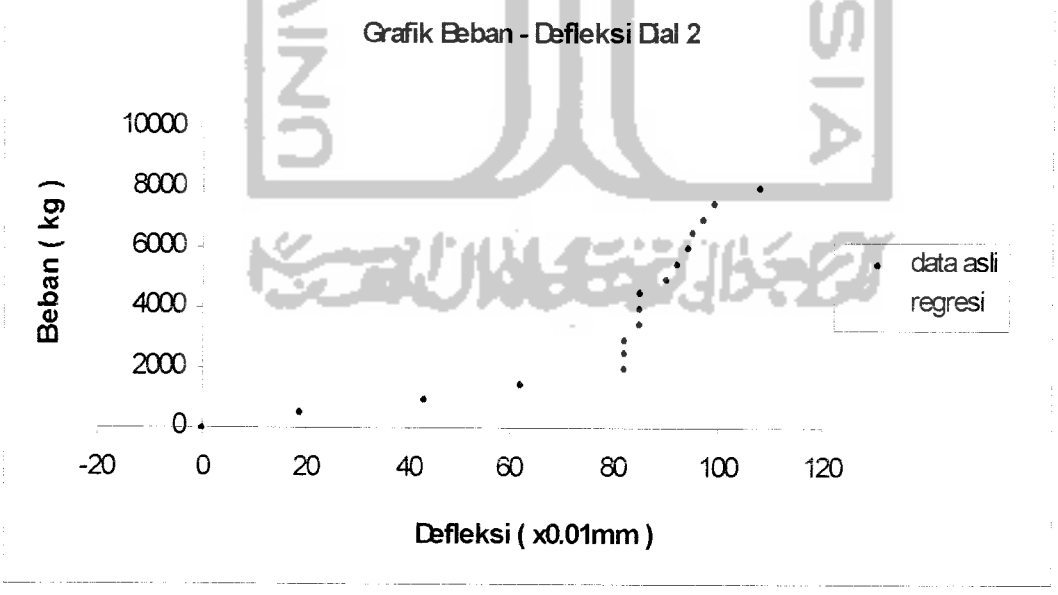
Gambar 5.69 Grafik Beban – Defleksi Dial 5 Benda Uji 1,9m / B / 4



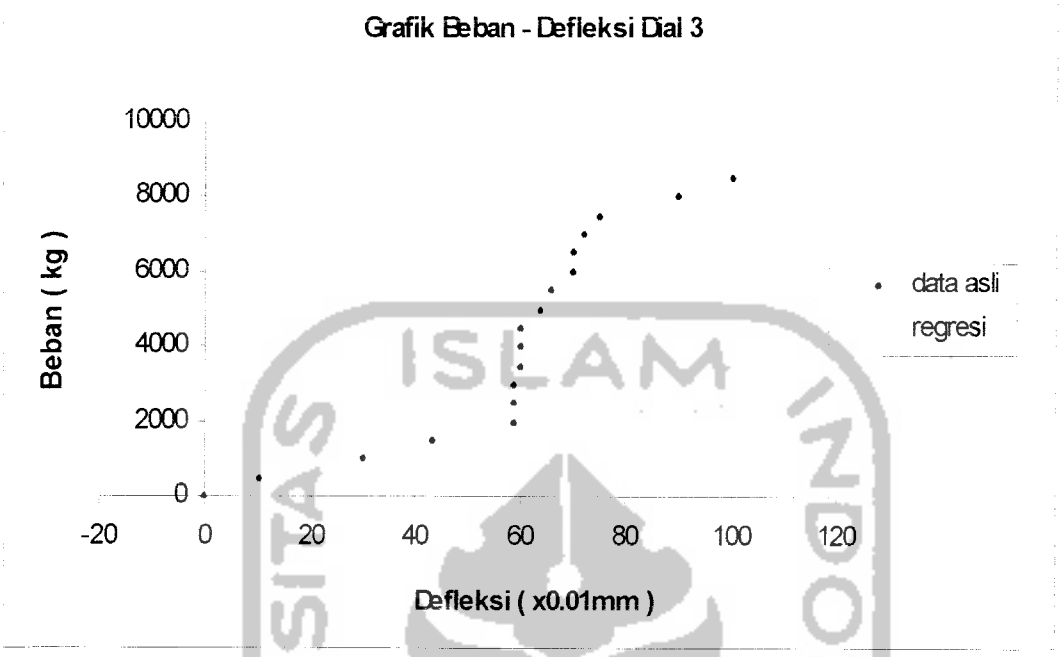
Gambar 5.70 Grafik Beban – Defleksi Dial 6 Benda Uji 1,9m / B / 4



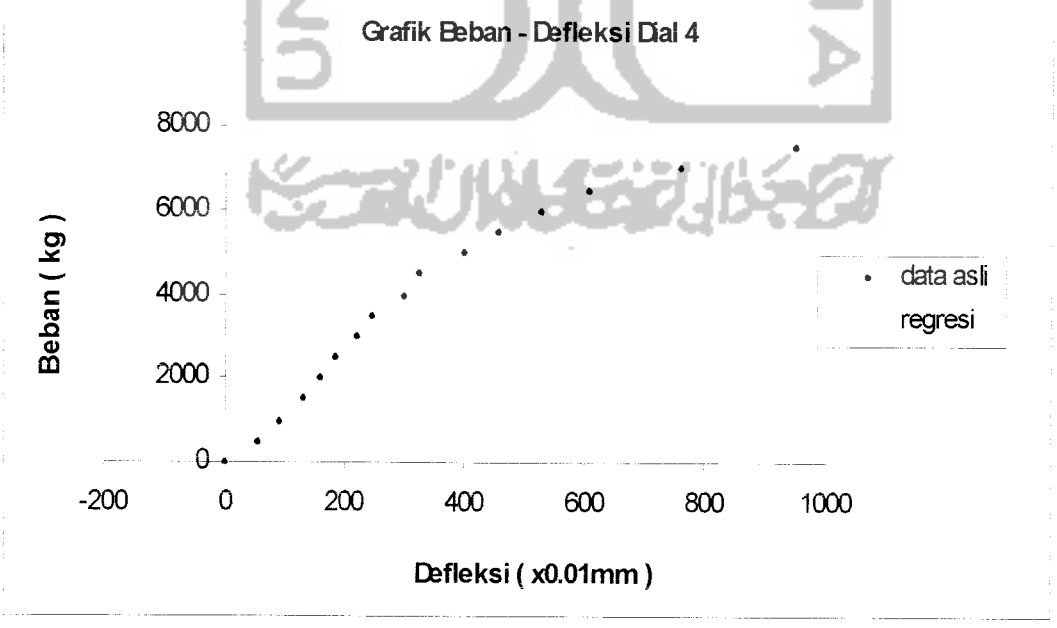
Gambar 5.71 Grafik Beban – Defleksi Dial 1 Benda Uji 1,9m / C / 4



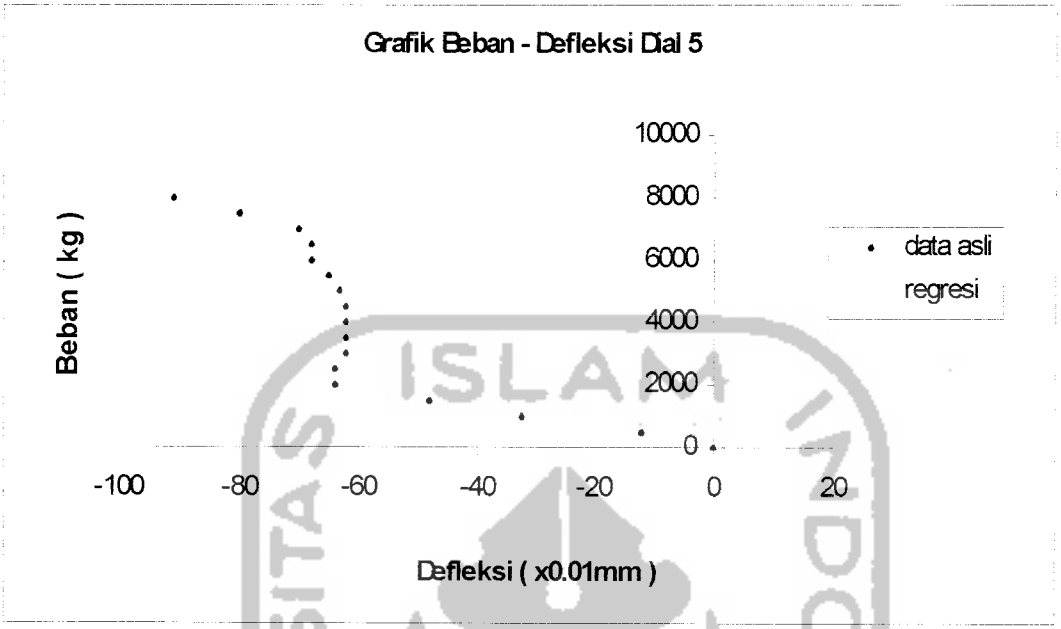
Gambar 5.72 Grafik Beban – Defleksi Dial 2 Benda Uji 1,9m / C / 4



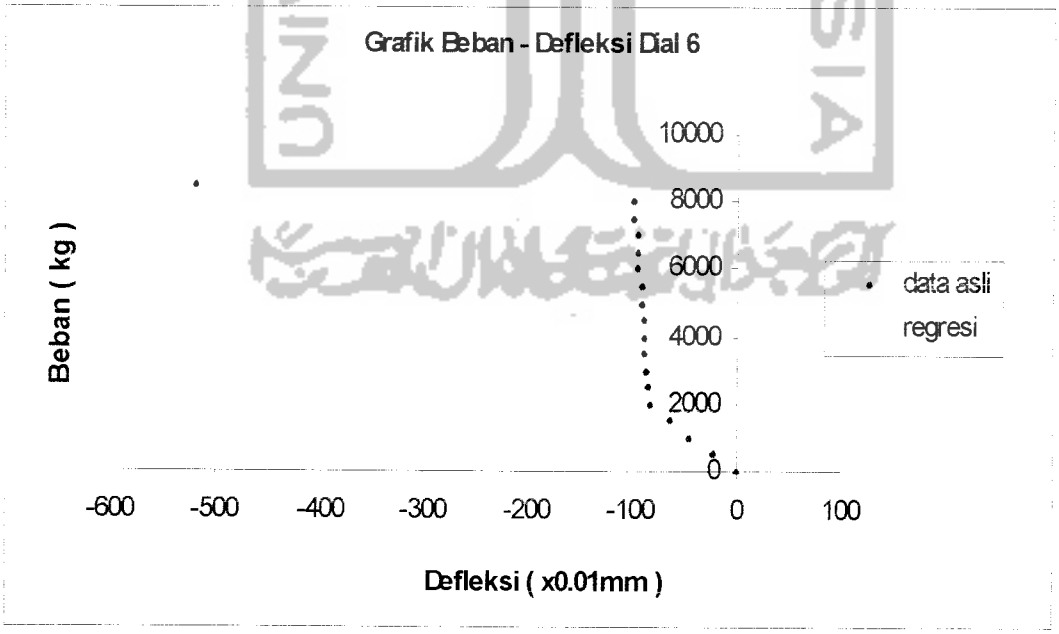
Gambar 5.73 Grafik Beban – Defleksi Dial 3 Benda Uji 1,9m / C / 4



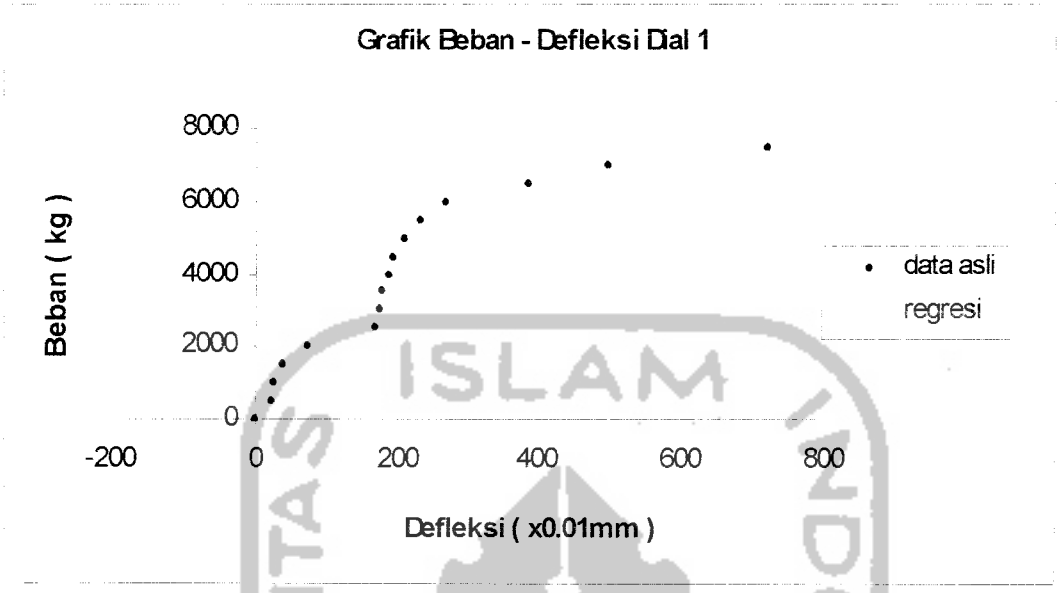
Gambar 5.74 Grafik Beban – Defleksi Dial 4 Benda Uji 1,9m / C / 4



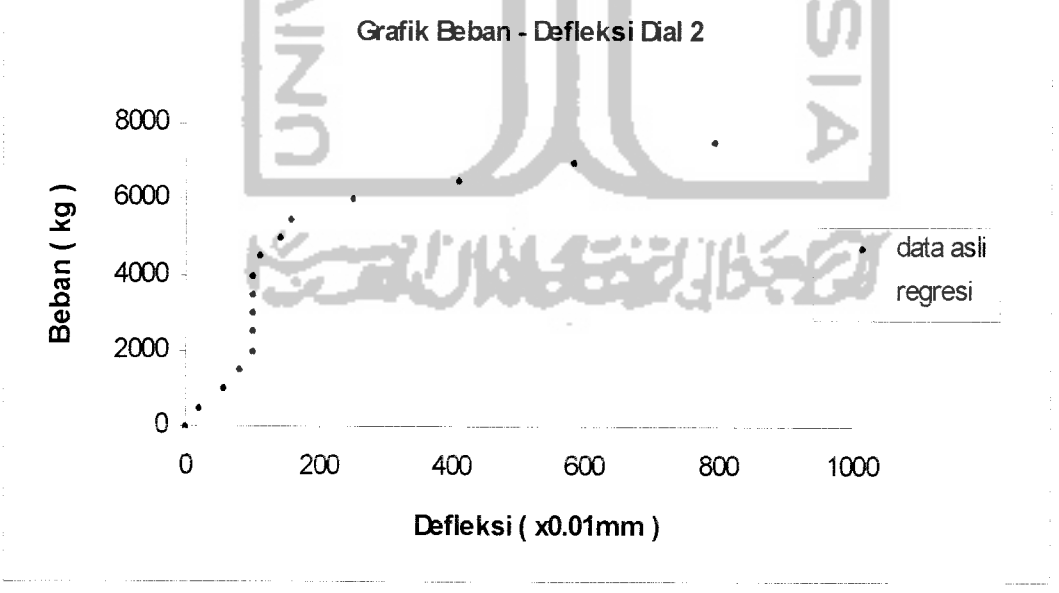
Gambar 5.75 Grafik Beban – Defleksi Dial 5 Benda Uji 1,9m / C / 4



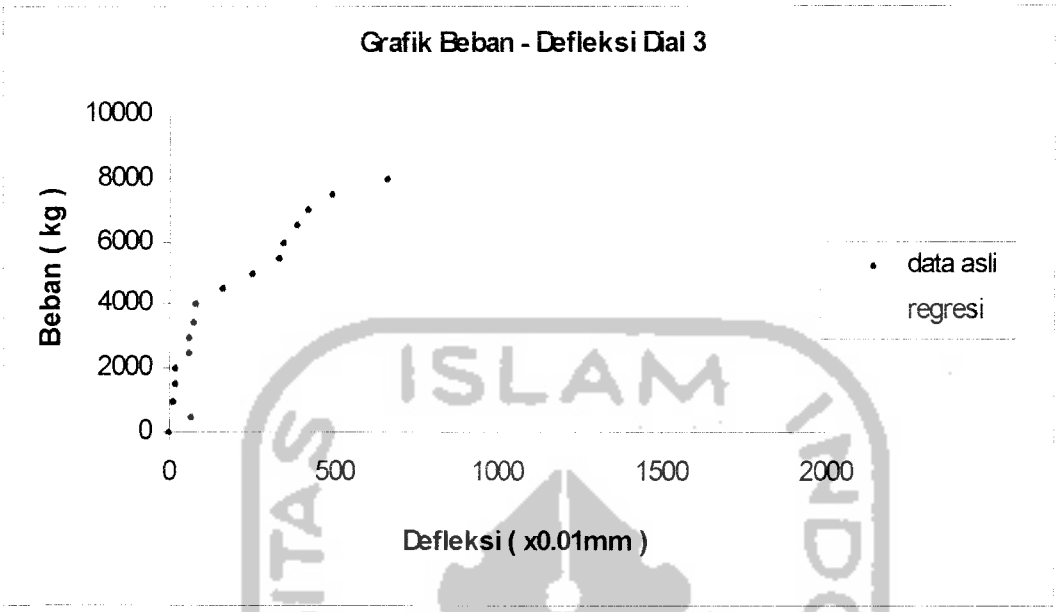
Gambar 5.76 Grafik Beban – Defleksi Dial 6 Benda Uji 1,9m / C / 4



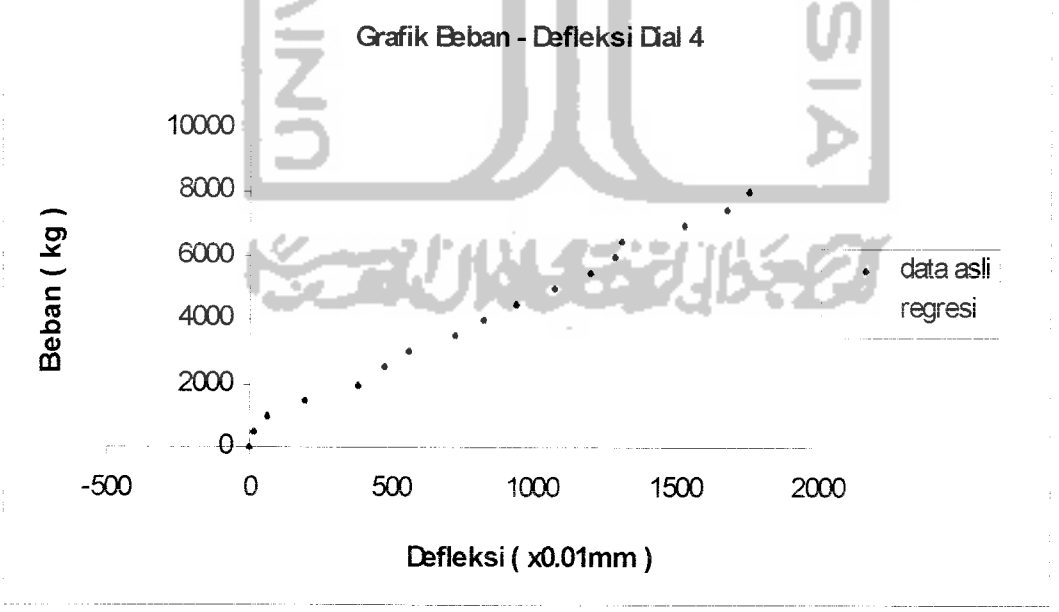
Gambar 5.77 Grafik Beban – Defleksi Dial 1 Benda Uji 2,2m / A / 5



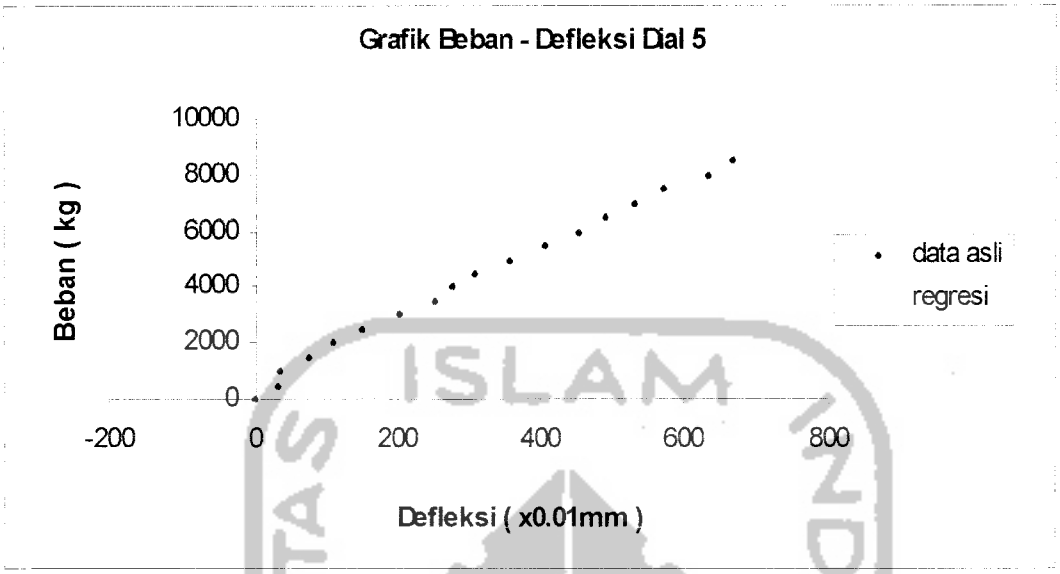
Gambar 5.78 Grafik Beban – Defleksi Dial 2 Benda Uji 2,2m / A / 5



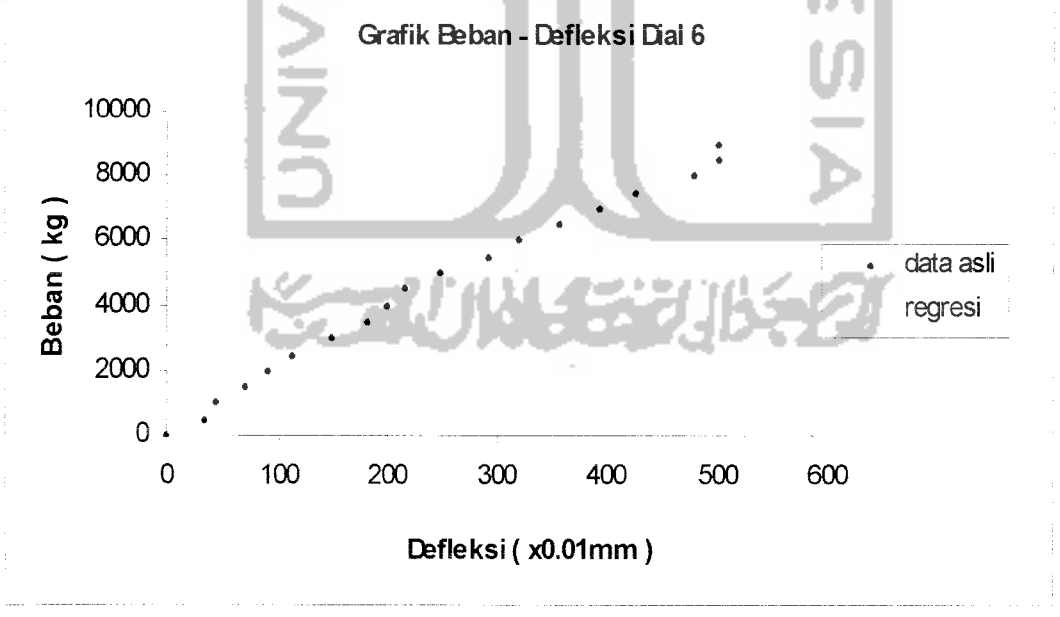
Gambar 5.79 Grafik Beban – Defleksi Dial 3 Benda Uji 2,2m / A / 5



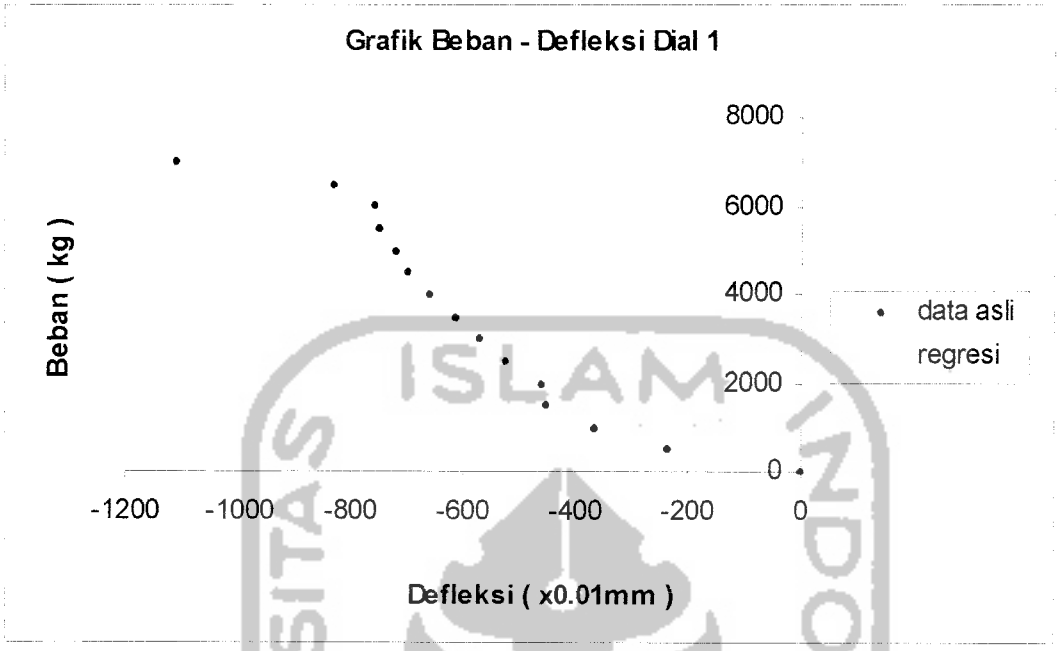
Gambar 5.80 Grafik Beban – Defleksi Dial 4 Benda Uji 2,2m / A / 5



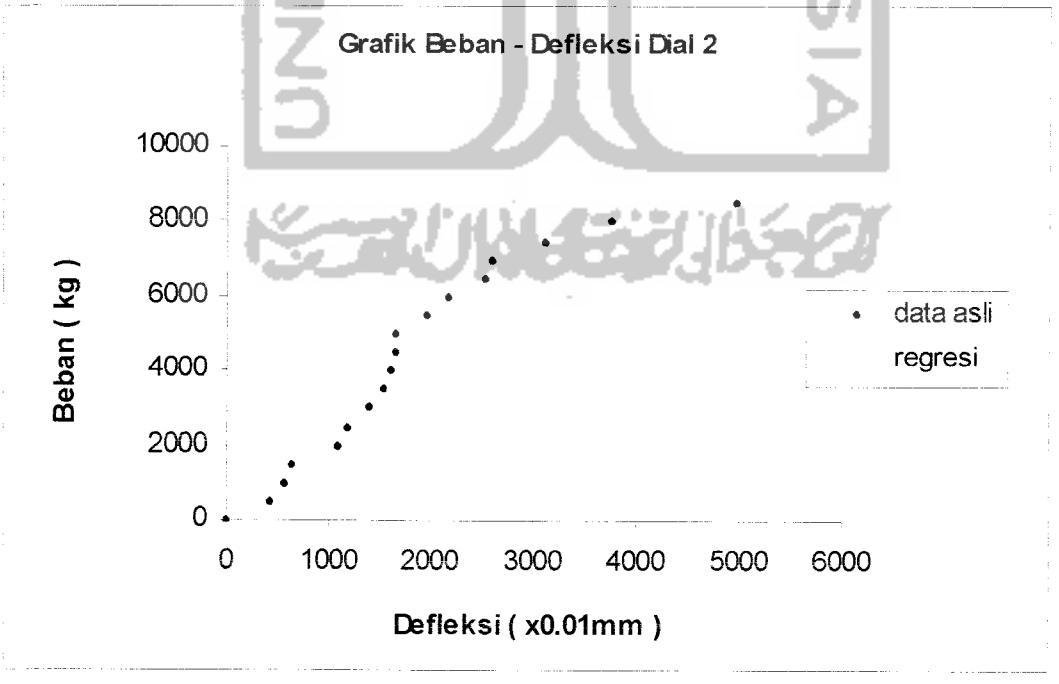
Gambar 5.81 Grafik Beban – Defleksi Dial 5 Benda Uji 2,2m / A / 5



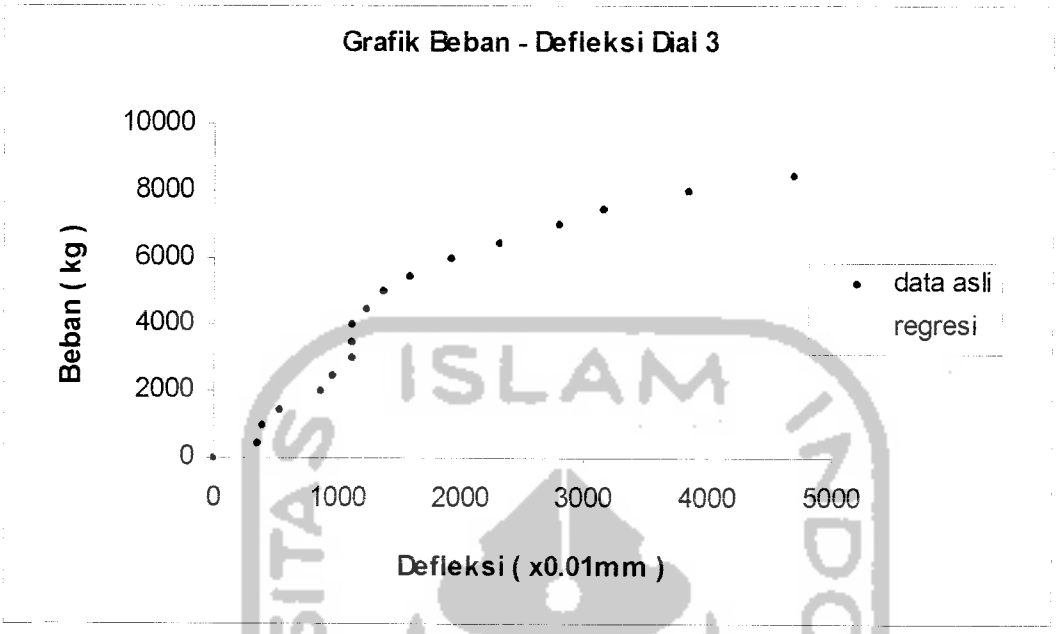
Gambar 5.82 Grafik Beban – Defleksi Dial 6 Benda Uji 2,2m / A / 5



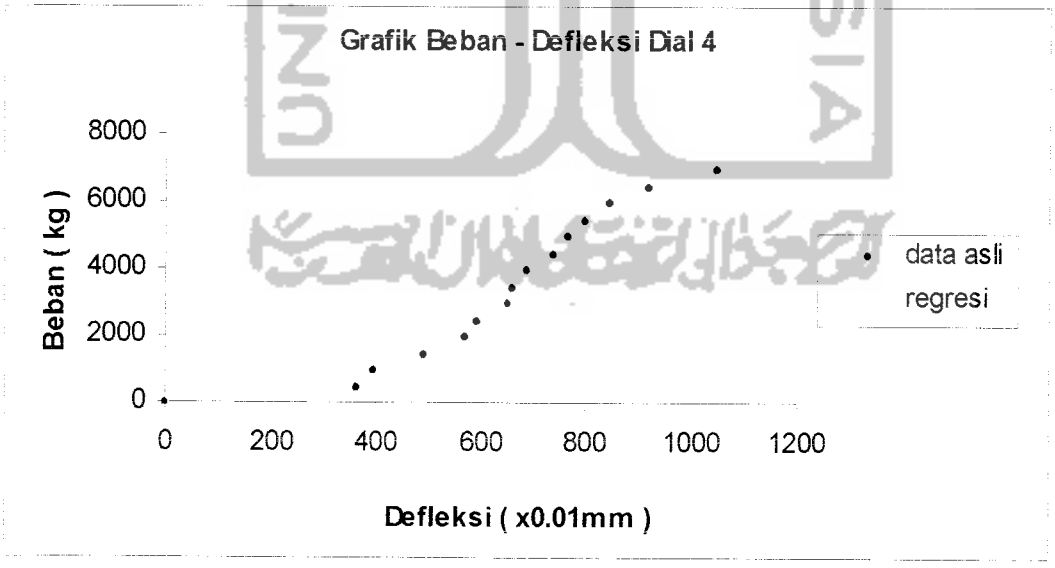
Gambar 5.83 Grafik Beban – Defleksi Dial 1 Benda Uji 2,2m / B / 5



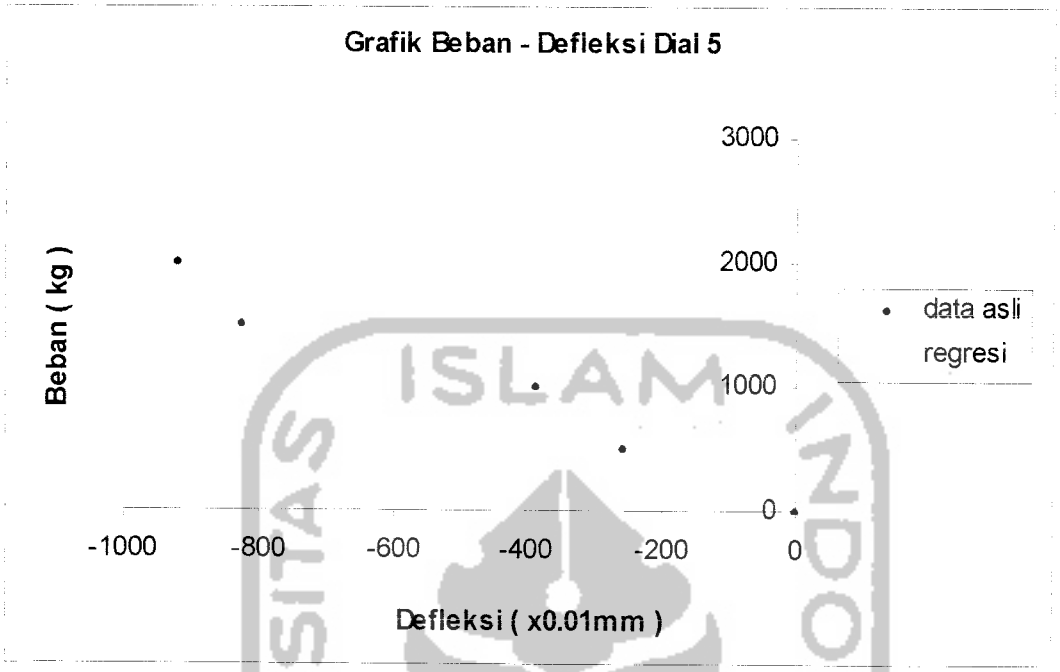
Gambar 5.84 Grafik Beban – Defleksi Dial 2 Benda Uji 2,2m / B / 5



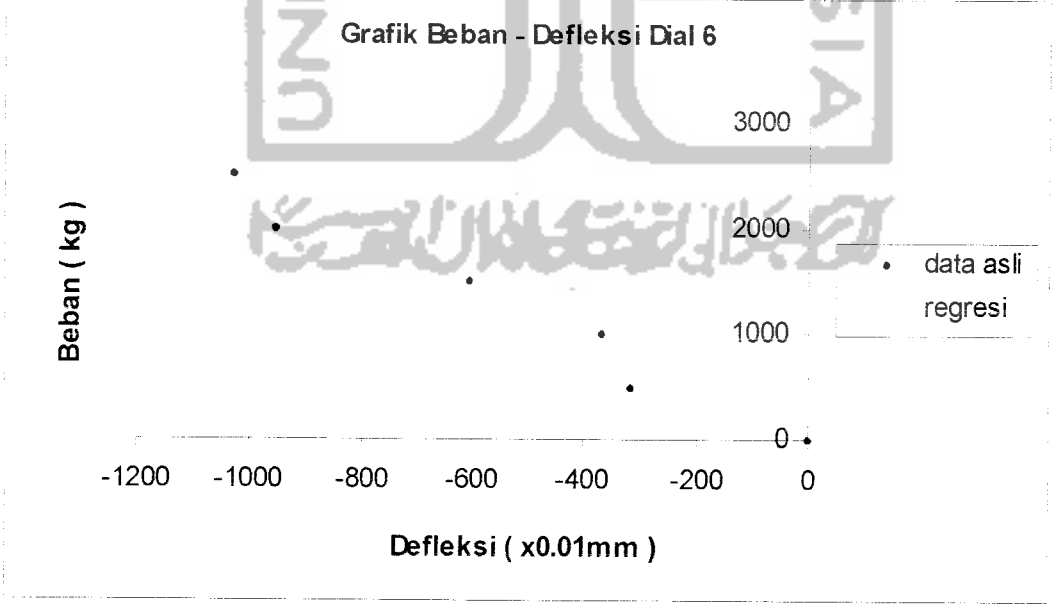
Gambar 5.85 Grafik Beban – Defleksi Dial 3 Benda Uji 2,2m / B / 5



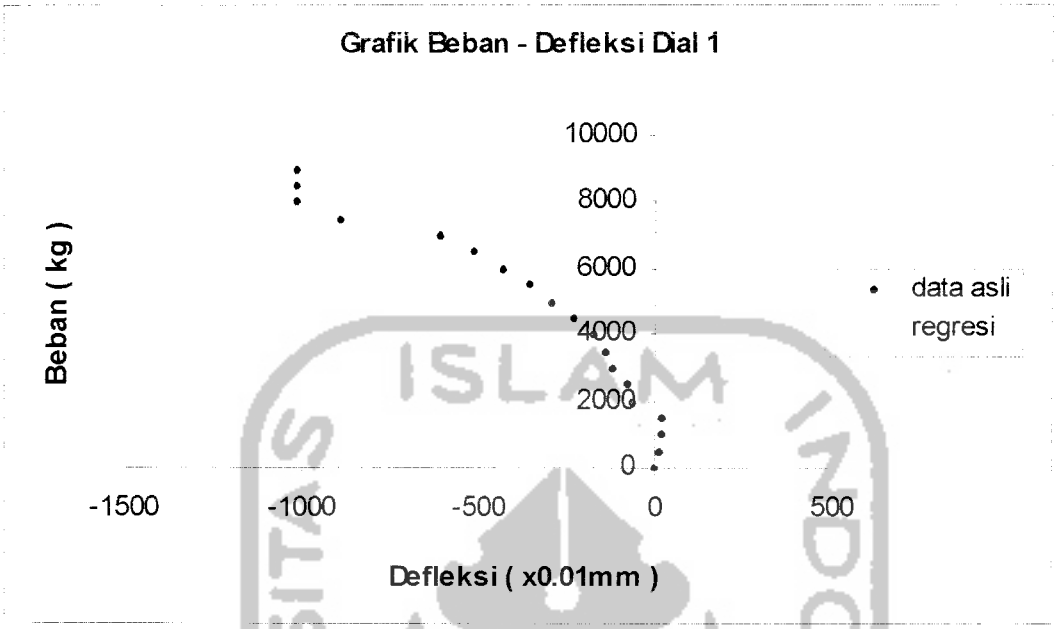
Gambar 5.86 Grafik Beban – Defleksi Dial 4 Benda Uji 2,2m / B / 5



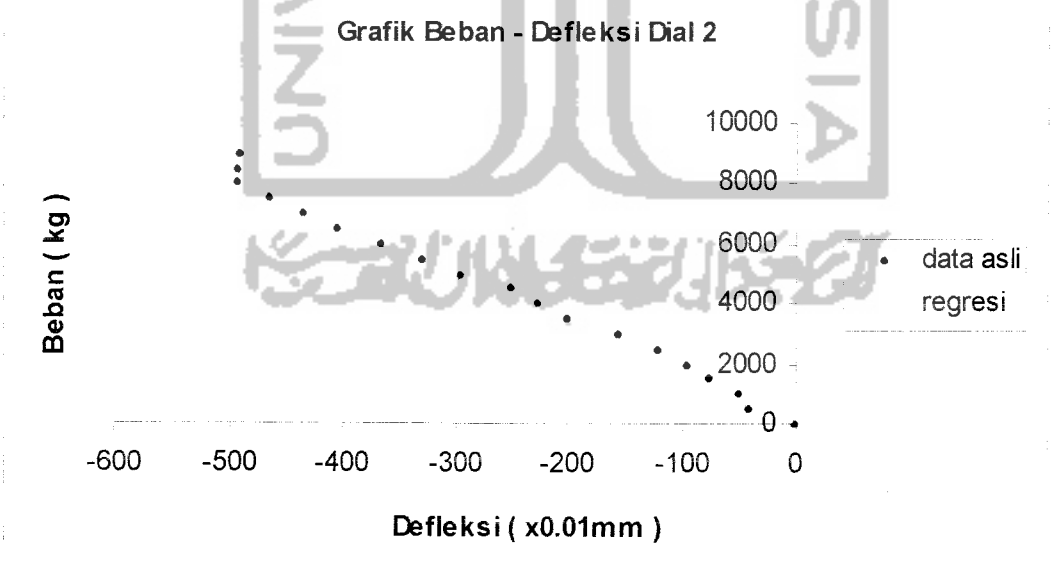
Gambar 5.87 Grafik Beban – Defleksi Dial 5 Benda Uji 2,2m / B / 5



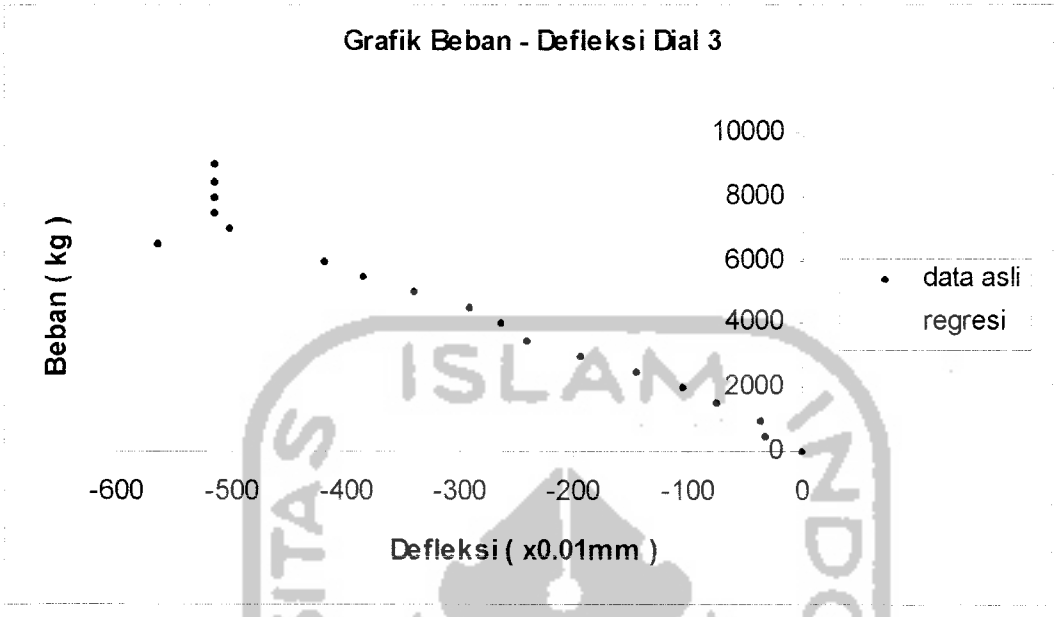
Gambar 5.88 Grafik Beban – Defleksi Dial 6 Benda Uji 2,2m / B / 5



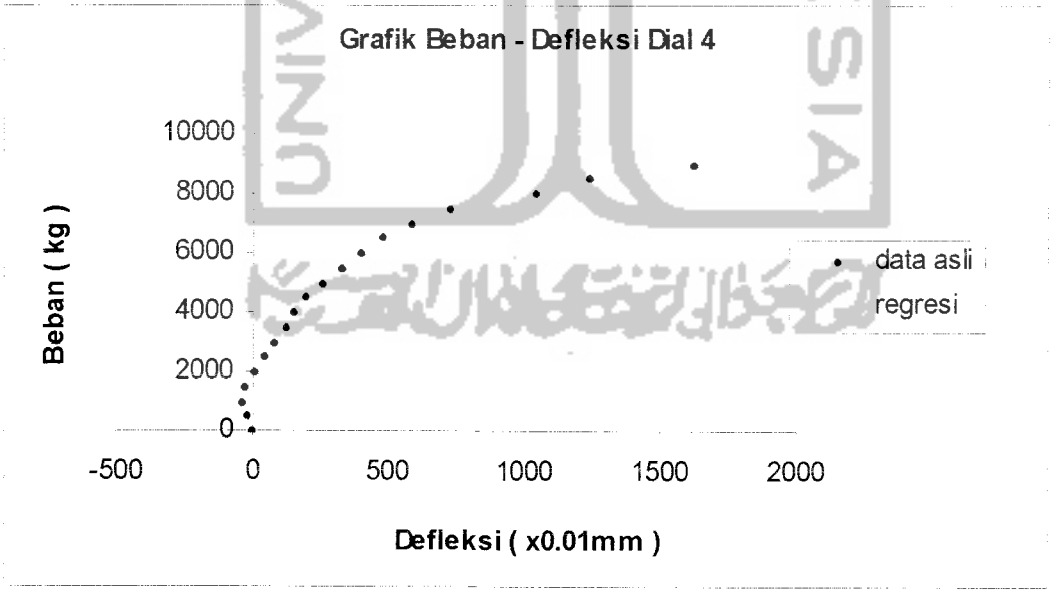
Gambar 5.89 Grafik Beban – Defleksi Dial 1 Benda Uji 2,2m / C / 5



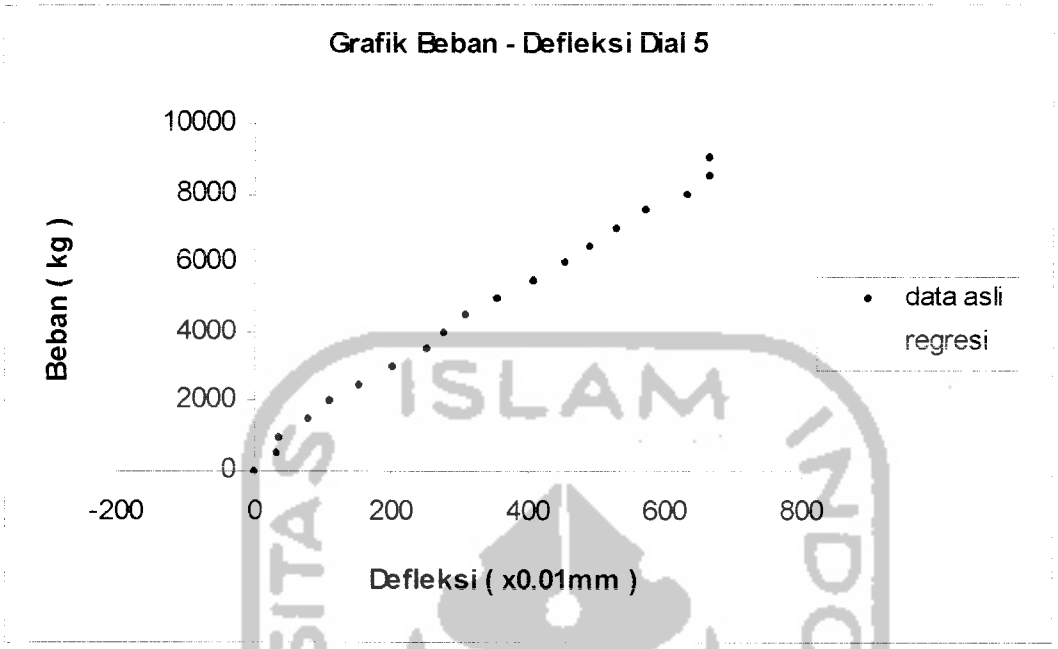
Gambar 5.90 Grafik Beban – Defleksi Dial 2 Benda Uji 2,2m / C / 5



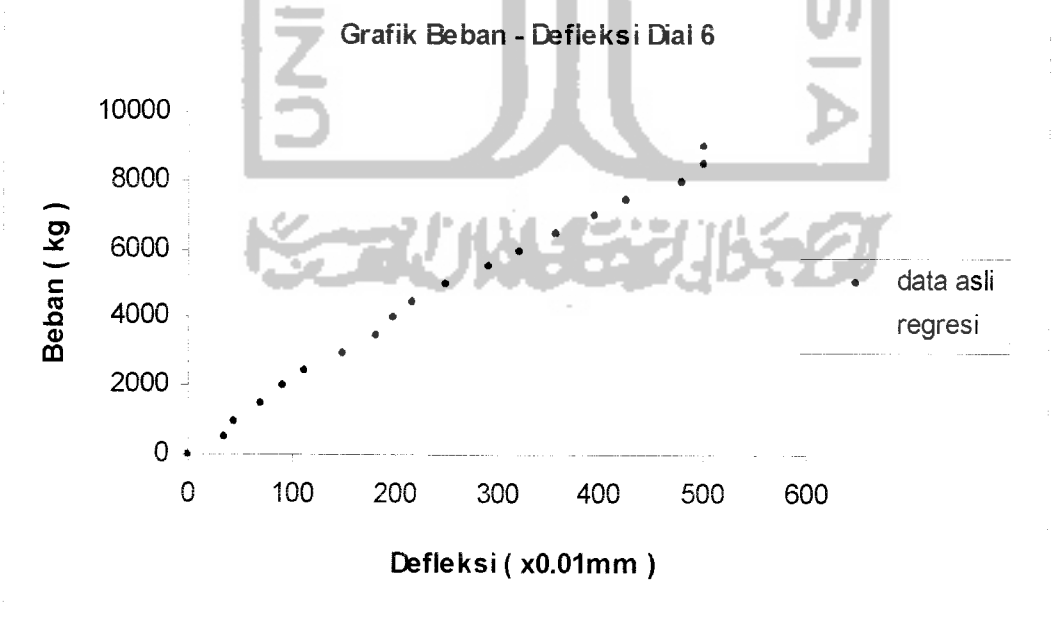
Gambar 5.91 Grafik Beban – Defleksi Dial 3 Benda Uji 2,2m / C / 5



Gambar 5.92 Grafik Beban – Defleksi Dial 4 Benda Uji 2,2m / C / 5



Gambar 5.93 Grafik Beban – Defleksi Dial 5 Benda Uji 2,2m / C / 5



Gambar 5.94 Grafik Beban – Defleksi Dial 6 Benda Uji 2,2m / C / 5